

Thematic University-Business Forum

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**University-Business Cooperation:
Driving Competitiveness, Employability and Prosperity**

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Forum Report

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Disclaimer:

This proceeding report presents the main points and conclusions of the presentations, speeches and discussions from the University-Business Forum held in Berlin on 20-21 November 2014. The report does not contain verbatim all that was said during the Forum. The information and views set out in this report do not necessarily reflect the official opinion of the European Commission.

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The European Commission established the EU Forum for University-Business Dialogue to advance and facilitate interactions between the academic and business world. The University-Business Forum provides face-to-face opportunities for discussion, networking, mutual learning and the illustration of good examples for cooperation between business and higher education.¹

The University-Business Forum is part of wider efforts to support the Modernisation of Higher Education in Europe² and has a key role in supporting the implementation of Europe 2020. Europe 2020 has a clear message: to stay competitive, Europe must invest in people, their ability to innovate and to adapt to change. Universities are centred at the heart of the knowledge triangle of research, education and innovation, which are drivers of the knowledge economy. Higher education, in cooperation with business, can help deliver the skills necessary to compete and the environment to enable innovation.

In addition to regular high-level forums in Brussels, DG Education and Culture organises thematic University-Business Forums in Member States. These events explore issues that are high both on national and European political agendas.

This Thematic University-Business Forum entitled 'Driving Competitiveness, Employability and Prosperity' was co-organised in partnership with the German Rector' Conference (HRK) and Confederation of German Employers' Associations (BDA).

The Thematic Forum featured a mix of keynotes, panel discussions and presentations of inspirational examples. The opening session and panel discussions set the scene for the Forum and introduced the overarching theme of university-business collaboration from different viewpoints. Discussions and presentations from internationally recognised researchers and academics further to representatives of businesses – associations, small and large companies – focus on four main themes during the parallel sessions of the Forum:

1. Dual Study Programmes – Combining Academic and Professional Learning
2. Adapting Higher Education to Lifelong Learning
3. The Impact of University-Business Cooperation
4. Higher Education and Entrepreneurship

The Thematic University-Business Forum in Berlin also provided the opportunity to explore the HEInnovate self-assessment tool (www.heinnovate.eu) through a workshop, which took place in the afternoon during the second day of the Forum.

1 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A new partnership for the modernisation of universities: the EU Forum for University Business Dialogue: Brussels, COM (2009), 158 final.

2 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 20 September 2011 - Supporting growth and jobs – an agenda for the modernisation of Europe's higher education systems [COM(2011) 567].

In spite of the many known benefits of University-Business Collaboration (UBC), there remain many socio-economic, infrastructural and technological challenges, further to the need for changing the mind-set and reinforcing positive behaviours to maximise the benefits UBC can deliver. From the discussions at the two days of the Thematic Forum the following themes emerged:

- Successful collaboration and cooperation between higher education institutions and companies are characterised by systemic, long-term two-way partnerships. Recent years have seen a significant positive shift towards this gold standard moving from personal relationships to institutional. However, there remain challenges and if universities are to collaborate with employers more effectively in education in particular, HEIs need to improve on the adaptability of their curricula and speed up their reactions towards companies.
- The student population is diversifying which creates new pressures on the higher education system. Therefore new and more flexible systems, support and educational offers need to be established to encourage student retention and improve employability. Students need guidance to understand the increasingly complex education offer with multiple entry and exit points. Students choices should be driven by personal ambitions and their learning requirements, benefiting from the differentiated learning offers available, not just seeking out elite institutions.
- Dual study programmes are well established in Germany which help diversify the educational offer and increase graduate employability, especially at the Bachelor level. There are however challenges to be overcome for successful implementation, for example, finding the right teaching and collaborative methods, matching students with the right partners or aligning the needs of the dual and traditional study programme participants.
- Higher education institutions increasingly explore multidisciplinary teaching models and approaches as a way of exposing students to real life problems and providing companies with access to graduates with a wide range of skills and capabilities
- Higher education institutions have many roles in an entrepreneurial ecosystem at local, regional and national levels. The roles it develops must be driven by the ultimate needs of the system rather than the institution. Professors and teachers are rising to the challenge of delivering entrepreneurial skills, through new concepts and approaches as this Forum showcased. There are good examples of entrepreneurship teaching offers and training for professors and teachers.
- For the regions, universities are particularly important in their role of retaining talent, growing new companies and increasing the level of skills in the labour market. However measuring the outcomes and impacts in a more comprehensive manner is still a challenge ahead.
- There are many types of impacts in University-Business Cooperation including those related to curriculum relevance, employability, new ideas, long term strategic partnerships and networks. For companies as well as for higher education institutions, it is important to identify and understand the variety of benefits and impacts of collaborating.

Working together for Social and Economic Impact

Mr Richard Kühnel (AT), Head of Representation of the European Commission in Germany welcomed the Forum participants. This is the first time Germany has hosted a University-Business Forum (UBForum), and the first time employers and universities have hosted a Forum together. Referring to recent EU policy developments, President Juncker has established a clear framework and action plan consisting of ten broad priorities for the European Union to start anew. There is a new Commissioner for Education, Youth and Sports and Vice-Presidents in charge of task forces such as Jobs, Growth, Investments and Competitiveness, Euro & Social Dialogue and Digital Single Market.³ The task forces represent another feature of a new and integrated approach. Europe needs an entrepreneurial climate to trigger more employment, leveraging trans-regional and transnational cooperation.

The degree of existing University-Business Cooperation (UBC) differs in each Member State (MS), with variations in terms of disciplines and types of higher education institutions. While there are good examples, there is still a long way to go, particularly in factors such as tradition, economics, mobility, and the cultural views on the correct use of research.

In spite of the many known benefits of university-business collaboration, there remain many socio-economic and technological challenges ahead. Youth unemployment is one of the main challenges facing Europe today, and establishing links between the education system and companies is an important mechanism for mitigating this problem. Citizens in Europe expect a lot from their education systems, both in terms of skills development and its contribution to overcoming the economic crisis. Universities are centres of expert knowledge and places of learning. They offer opportunities for young people and ensure the free exchange of knowledge and expertise. While universities are a driving force for local economies and societies at the same time they also deliver global benefits. However, study plans and curricula are reacting slowly and when employers come on board, it can help speed up the policy process and the adaptability of higher education institutions.

The Commission adopts soft policies at EU-level, however, Member States (MS) remain active agents in fostering an increase such collaborations on the ground. The Commission is working on instruments and transparency through the European Quality Framework, ECTS and the Erasmus+ programme, which cover all previous education actions of the Lifelong Learning Programme including Leonardo, Alpha, and Erasmus Mundus to bring forward EU education policy.⁴ The EC is also working on expanding and enhancing the mobility of students, lecturers and staff, with the target of mobilising more than two million individuals. A bold political decision has been taken to enhance Erasmus+, with a substantial increase in funding. The University-Business Cooperation activities of DG Education and Culture involve not only the Erasmus+ Knowledge Alliances, but also the Knowledge Innovation Communities (KICs) from the European Institute of Technology (EIT), Horizon 2020, as well as Marie Skłodowska-Curie activities and networks.

Entrepreneurial universities are an important part of the system and the European Commission, in collaboration with the OECD, has developed the HEInnovate self-assessment tool and platform to help higher education institutions self-reflect and adapt to the new challenges they face. .

Mr Kühnel closed his speech by calling for a closer cooperation between universities and companies for mutual benefit. To achieve these ambitious goals and to build the necessary trust, it is crucial to address the differences in the vocabulary/terminology used by companies and universities.



³ http://ec.europa.eu/about/structure/index_en.htm

⁴ ET 2020: [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52009XG0528\(01\)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52009XG0528(01))

Skilled Workforce for Today and Tomorrow - Fostering Innovation and Competitiveness



Mr Ingo Kramer (DE), President of the Confederation of German Employers' Associations discussed the status quo of university-business interactions in Germany.. According to a study from Münster University of Applied Sciences, Germany stands in the upper third of EU28 countries in university-business collaboration. However, UBC in Germany is mostly based on personal contacts and there is work to do in order to develop a more institutionalised system of cooperation, creating more sustainable cooperation frameworks and strategic partnerships.

Mr Kramer touched on his experience at the Jacobs University, in the Bremen region where many of the relationships were personal, especially with entrepreneurs. To transform these into institutional contacts needs political support to foster networks and alliances. This is already a key objective set out in the high-tech strategy of the German federal govern-

ment.⁵ Additionally, as the external expertise from the labour market starts to penetrate inside universities, the mentality of the institution will change and with that a bigger impetus for further collaboration and cooperation.

Institutional autonomy of higher education institutions remains important. However the traditional gap between the scientific and business worlds needs to be bridged. Policy does not always support and encourage bridging this gap and there are clear contradictions in the ministerial draft version of the "Future Higher Education Act NRW" (Hochschulzukunftsgesetz Nordrhein-Westfalen) which asks for more cooperation whilst at the same time limits it. HEIs need to balance their independence with the needs of businesses, their expectations and interests.

In 2013, companies in Germany invested €12,5b into academia. This investment is in infrastructure, equipment and, above all, in dual study programmes and internships. These programmes tend to concentrate around certain professors with established contacts with private sector companies. For sustainability, relationships need to be strengthened, and made more system-wide. Mr Kramer encouraged participants and policymakers at the Forum to look at how this can happen and address some of the inherent frictions arising. More university management competences are needed, and the fear of influence by companies and of "science being bought" is proving not to be an issue for the vast majority of academics.

Mr Kramer spoke about the new scheme "Deutschlandstipendium"⁷ scholarships in Germany, with 20,000 students supported in a 40-60 split between state and industry. He also highlighted the challenges that Germany is facing in terms of skills shortages. In 2030, there will be 4 million fewer people of working age compared to nowadays. Higher value skills and ensuring a better match of job profiles and competences are needed to sustain the social welfare system in the face of diminishing human capital. There are many actions to take, reducing drop out rates, improving student motivation, involving more women in STEM i.e. science, technology, engineering and math subjects and incentivising international students to stay. There is a particular issue with STEM subjects (referred to as MINT - mathematics, informatics, natural sciences and engineering - in Germany) Mr Kramer concluded by stating that Germany must not be complacent and needs to work towards addressing these issues.

5 <http://www.hightech-strategie.de/de/The-new-High-Tech-Strategy-390.php>

6 On November 19, 2013, the assembly of the German Rectors' Conference, HRK for short, discussed the ministerial draft version of the "Future Higher Education Act NRW" (Hochschulzukunftsgesetz Nordrhein-Westfalen), criticising the planned limitation to the universities' autonomy. On November 20, 2013, the HRK President has written an open letter to the NRW Minister President and the Minister of Science and Research, calling on them to reconsider this aspect of the draft bill.

7 <http://www.deutschlandstipendium.de>

The Role of Higher Education in the Knowledge Triangle



Professor Horst Hippler (DE), President of the German Rectors' Conference spoke on the role of German universities in a Europe of knowledge. The University-Business Forum (UBForum) in Berlin, as the first ever in Germany, may trigger major interest from university, businesses and policy partners. European universities focus on all aspects of the knowledge triangle (research, education and innovation) although each country and each institution will have stronger and weaker parts of the knowledge triangle in practice. This Forum provides an opportunity to share experiences and debate. As an example of the research–innovation nexus, MP3 technology was invented in Germany in the 1990s, however most of the production was carried out in Asia. Germany has since strengthened its research-innovation links, with the support of the excellence initiatives of the German Federal Government and the federal states to

expand such links in German universities. The “Exzellenzinitiative”⁸ launched in 2005 provided a very targeted approach for the promotion of additional university research centres, where universities could cooperate to foster economic growth. The close cooperation between German universities and companies in R&D is particularly strong in the case of technical colleges, but other universities are also increasingly involved.

A focal area of the University-Business Forum is the connection between ‘education and research’ and ‘education and innovation’. This reflects the growing consensus that cooperation is not just about research. The German Rectors' Conference is currently thinking about a number of issues related to these themes. How to make sure that university graduates are highly employable? How to improve skills and knowledge to promote creativity and foster the entrepreneurial spirit of our students? How to fix fractured relationships and strengthen links with companies? The EC has recently stated that many graduates are not sufficiently equipped for the labour market.⁹ In Germany, this has received a lot of attention, particularly in engineering studies. There is also increasing diversity which creates additional need for support during study and more flexible programme offers. If drop outs remain an issue, there needs to be a culture of reorientation and to ensure that students who fail at one subject have the opportunity to start anew. Another related issue is to help students to understand the differences across the various types of higher education institutions including offers of dual programmes and internships. Such guidance in turn can help students with better selection of courses for their own personal learning and career paths.

The Germany's Scientific Council “Wissenschaftsrat” published a statement on the need for additional skilled labour and expertise.¹⁰ German universities are in the middle of a debate on the right mix of skills for students and its relation to the labour market. Prof Hippler closed his speech by stating that the UBForum is an example of the paradigm shift that is coming, and looked forward to hearing about different examples and inspiration in the German and international contexts.

⁸ <http://www.excellence-initiative.com/start>

⁹ European Commission, DG EAC: The Survey for Adult Skills (PIAAC) Implications for education and training policies in Europe: http://ec.europa.eu/education/policy/strategic-framework/doc/piaac_en.pdf

¹⁰ Empfehlungen zum Verhältnis von beruflicher und akademischer Bildung – Erster Teil der Empfehlungen zur Qualifizierung von Fachkräften vor dem Hintergrund des demographischen Wandels (Drs. 3818-14) <http://www.wissenschaftsrat.de/download/archiv/3818-14.pdf>

Session A - Dual Study Programmes

In the last decade, more and more Member States have developed study programmes that look to better match graduates' competences with the challenges of professional life. Germany has a long tradition of vocational education and training that combines theory and practice. This approach has been applied progressively to academic disciplines. Dual study programmes combine two places of learning: higher education institutions and the company/workplace. At the moment, dual study programmes are only implemented in a few Member States. However, their popularity is increasing and other Member States are now looking with interest at this model.

In particular, the session highlighted:

- Perspectives and trends regarding the quality assurance of dual study programmes based on experiences of the German education system
- The experiences with dual study programmes, including the need for changing perception at higher education institutions and expanding on successful initiatives in the Italian and French higher education
- The role and need for staff development through dual study programmes from a company's perspectives.

Workshop A1 - Combining Academic and Professional Learning

The first workshop focused on dual study programmes at Bachelor study levels. **Dr Barbara Dorn (DE)**, Confederation of German Employers' Associations moderated the session, which engaged contributions from **Dr Sabine Behrenbeck (DE)**, Head of Department Higher Education at the German Council of Science and Humanities, an advisory body to German universities implementing dual study programmes; **Dr Vittorio Franzellin (IT)**, Free University of Bolzano, providing the example of a young and small university from Italy; and **Ms Filiz Albrecht (DE)**, MANN+HUMMEL GmbH representing the views of a family run large international company.

Germany provides a good example for discussing dual study programmes at a University-Business Forum due to the large number of students undertaking dual study programmes and the significant number of companies, contributing to their delivery including many SMEs. In 2013, the Council of Science and Humanities established recommendations on the dual study programmes and tackled issues on quality assurance emphasising its role as a central element in building university-business collaboration. **Dr Behrenbeck** reflected on the key role of quality assurance in her presentation, by highlighting the main features and the main modes of implementation of dual study programmes in Germany according to the Council of Science and Humanities.



The main features of dual study programmes she highlighted are: (1) they are dual i.e. require cooperation of the different places of learning; (2) they are study programmes i.e. always have to meet academic standards and (3) they result in a double qualification.

These programmes provide a wide range of benefits to all stakeholders involved. However, in order to maximise the benefits delivered, quality assurance procedures are of key importance. These need to focus on the harmonisation of the different places of learning and

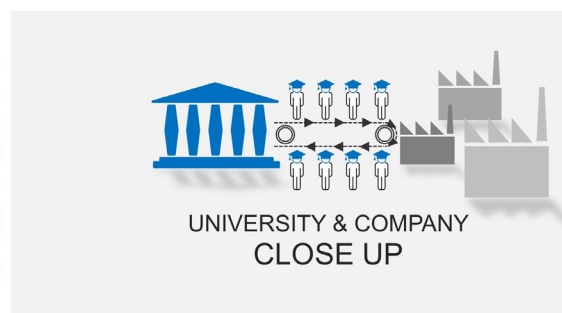
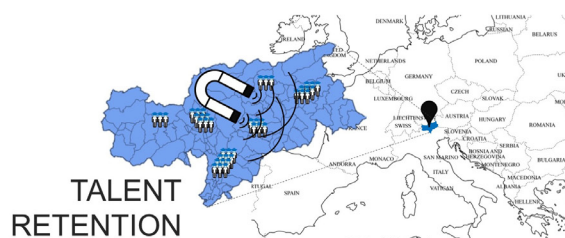
training, ensuring that academic standards are met, on the provision of supervision and on ensuring the continuity of dual Bachelor studies to traditional Master's programmes. Currently, the offer of dual study programmes varies across the types of institutions and level of education, and represents an important part of the educational offer. Due to their recognised specialities and benefits - dual study Bachelor programmes are not the fastest way to an academic career but to employment in industry - they have been constantly growing in popularity and many international partners enquire about the key success factors of their implementation.

Questions from the floor focused on the methods of ECTS credit awarding system¹¹ and the frequency of change between the theoretical and practise-based training components in the students' study; furthermore regarding the employment status of the students; and the lengths of the programmes. In her reply Dr Behrenbeck pointed out, that there are many different modes of implementation, therefore students might rotate between the companies and HEIs on a weekly basis while other universities apply a block-based approach (e.g. 3 months rotation). The programmes are to be completed in three years and students are required to fulfil the 210-credit minimum during this period, which is awarded to the theory vs. practical education in different ratios by the various universities. It is a commonly used approach that companies employ students before they enrol in dual study programmes.

The next presentation in the session provided insight into the approach of a relatively young Italian university and its motivations for starting dual study programmes for engineers. **Dr Vittorio Franzellin** explained that the Free University of Bolzano is an autonomous university in Italy serving the local economy and encompassing half a million inhabitants, about 235 thousand employees in 57 thousand companies. Most of the companies are micro companies, employing less than 10 people each. About half of the employees have secondary school qualifications and less than 10% have a university degree. Therefore, to increase the level of qualification in the labour force, the University decided to launch dual study programmes at the engineering faculty.¹²

Launching a programme that has about ten students enrolled annually represented a major challenge, since it required the alignment of the university education with the needs of the local SMEs for a small number of students. The University decided to implement the dual Bachelor studies in engineering during a four-year period. The first year is part of the regular engineering study programme and focuses on theoretical courses. This year provides the students with the possibility to undergo a competitive selection process and find an SME partner. If they are successful, they can continue their studies from year two onwards as part of the dual study programme. The second and third years of the Bachelor studies are spent both at the companies (65%) and at the university, while the fourth year of the study programme is spent fully with the company partner. Students enrolled in the dual study programmes start earning a salary from year two onwards from the partner companies.

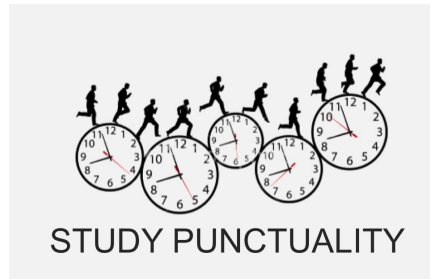
The approach has been proven successful, based on the statistics of the previous years. On average, 80% of the students get a job offer and 40% of them agree to continue working for the partner company selected during their studies. The rest of the students continue with Master studies or decide to change their job. It is highly beneficial for the region that five years after graduation 70% of the dual study programme graduates are still working in the region. The talent retention of the programme is a highly important aspect.



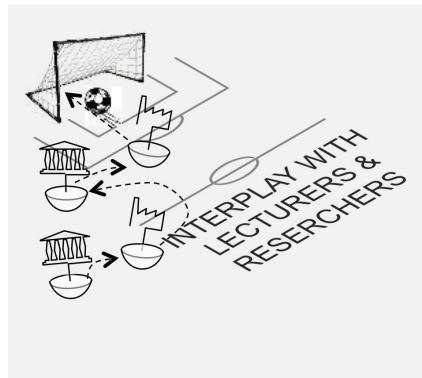
11 Further information on the European Credit Transfer and Accumulation System (ECTS): http://ec.europa.eu/education/tools/ects_en.htm

12 <http://www.unibz.it/en/sciencetechnology/progs/bachelor/industrial/working/default.html>

The evaluation of the students' soft skills highlighted that the graduates of dual study programmes have much better soft skills than their counterparts in the traditional Bachelor programmes, they are much better in time management (80% of them finish their degree on time) and their academic results equal to the achievements of the traditional Bachelor students.



Partner companies reported better strategy development due to the employment of the young industrial engineers, closer and varied collaboration with university partners and increased levels of HR qualification in their organisations.



Dr Franzellin finished his presentation by highlighting that matching the right students with the right companies is one of the key success factors. In addition, particular attention needs to be paid to the synchronisation between university-based and workplace-based study elements. Additionally, teaching staff needs a different set of didactical skills and methods to deliver the dual study programmes successfully.

The question following the presentation asked about the students who are not matched successfully with companies during the first year of their studies, the level and method of engagement of the university in the fourth year of the studies, and the possibility of continuation of the studies at Masters level. Dr Franzellin explained, that participation in dual study programmes is an option, and students who could not be matched with companies can continue their studies as part of the traditional industrial engineering programme. When finishing the dual study programmes, in the fourth year the students concentrate on their thesis, where they are assigned a tutor from the university. Currently the University does not offer Master's courses.

The last presentation in the workshop from **Ms Filiz Albrecht**, MANN+HUMMEL GmbH, a large multinational company with 17 thousand employees worldwide, provided insight on the benefits of the dual study programmes from the business perspective. The combination of theoretical knowledge and active competencies in the dual study programmes i.e. higher education and on the job training results in a very useful amalgamation of work-related expertise and academic skills in potential future employees. The company runs dual study programmes in partnership with selected universities. It is a highly competitive programme with about one thousand students applying out of which only 30 can be selected. The programme has a duration of three years and entails regular switches

between the university and the company. The students are employed by the company and receive a monthly salary starting at 1200 euros in the first year and 1400 euros in the last. The company also offers the possibility to work abroad as part of the programme.

The programme started in 1996 and since then 185 students have finished their studies. Currently, they have 49 students studying in dual study programmes in the field of engineering and arts. The programme requires a significant investment from the company (about 80 thousand euros per student) that is further increased with different forms of training (e.g. on SAP software and language). However, the programme delivers many benefits for the company. About 75% of the students participating continue their employment with the company. As a result, the investment in their training pays off. The company also offers the possibility of further education through Master courses, however this is linked to a number of conditions (e.g. departmental evaluations and Bachelor results).

The questions from the audience were focused on the feasibility of tailoring university courses to the needs of a relatively small number of dual study programme participant students from one company. In her response, Ms Albrecht explained that there are no courses devised specifically for MANN+HUMMEL. The universities run large courses, but in the context of dual study courses, these can be implemented in a harmonised way across different companies.

Discussion

The discussion focused on the importance of having outstanding level academic records when students are selected for the different forms of dual study programmes versus having required attributes and soft skills. The panellists highlighted the importance of a right selection procedure that helps matching students with the culture of the partner company. There are some prejudices regarding dual study programmes. For example, a lower level of employability of the graduates due to restricted knowledge of only one company, the risk of reaching a glass ceiling within a given company structure soon after graduation and the lack of transition possibility to traditional Master programmes. The panellists argued that, in comparison with traditional Bachelor graduates, dual study programme graduates are highly sought after and often occupy leading positions among management (for example in MANN+HUMMEL). The panel discussion concluded that dual study programmes offer the possibility of diversifying the educational offer, addressing important societal issues such as decreasing graduate unemployment and delivering benefits to all stakeholders involved. At the same time, the challenges of implementation have to be understood when launching and implementing such programmes. These include for example finding the right teaching and collaborative methods and partners and aligning the needs of the dual and traditional study programme participants.

Workshop A.2 Dual Study Programmes – Spotlight on Education beyond Undergraduate Studies

The second session of the workshop continued the discussions on dual study programmes, with a focus on the levels beyond Bachelor's studies, incorporating the aspect of lifelong learning. **Professor Helmut Hoyer (DE)**, FernUniversität in Hagen moderated the panel discussion, which sought contributions from **Ms Friederike Leisener (DE)**, Baden-Wuerttemberg Cooperative State University; **Ms Anne Steydli (FR)** and **Ms Nathalie Hillenweck (FR)**, Strasbourg University and **Mr Ebrahim Mohamed (UK)**, Imperial College London and Director of Education at the Climate KIC (Knowledge and Innovation Communities) of the European Institute of Innovation and Technology.¹³

In his introduction, Professor Hoyer referred back to the first workshop of the session, which showcased many well-organised approaches for dual study programmes. However, considering lifelong learning, distance learning and Master's level education the practices regarding dual study programmes seem less structured. He invited panel speakers to give their presentations and consider the role of universities in addressing the needs of a diverse portfolio of students who need personalised studies and tailored education offer.

¹³ <http://www.climate-kic.org>

Ms Friederike Leisener, Baden-Wuerttemberg Cooperative State University opened the set of presentations by explaining the journey that their university undertook to expand the concept of dual study programmes beyond Bachelor studies. The University has 34 thousand dual study programme students at Bachelor level, involving contributions from nine thousand companies delivering the programmes. Although the university had vast experience of delivering dual study programmes at Bachelor's level, they have only recently launched a Master's level dual study programme in 2011. Currently, they have 200 Master students enrolled across nine of the 12 campuses of the university.

The request for launching Master's dual programmes came from the companies, who wished to recruit the top performers. Therefore, the university had to enable its graduates to continue with their education.

The organisation of Master's level programmes requires different approaches, accreditation and evaluation modes and techniques in line with the different requirements set towards these programmes. Dual Master's programmes are open for cooperative partners, who want to use them as a dedicated training and development tool for their own personnel. Such an approach requires flexibility from the university, which manifests in a number of differences in the implementation of Master's level courses compared to Bachelor studies. While at Bachelor level the curriculum includes module descriptions for both theoretical and practical training, the Master programmes are much less descriptive and the selection process is also different. The Bachelor programmes are rather intense, requiring 210 ECTS credits to be fulfilled in three years. Companies often specifically look at the stress level of students when applying to the company and for the programme. The Master programmes take two years, are less defined and rather flexible. Students can also take a longer period of time to finish them.

Developing new study programmes is a joint effort with the partners. This gives a good view of what is needed from the practical side and helps design a programme that is best suited for the partners. In her concluding remarks, Ms Leisener emphasised the importance of quality assurance, including the need for organisational and culture development, teacher training and teaching skill development, further to evaluation of the study programmes and continuous improvement of their delivery.

The discussion following the questions explored the role of the academic tutors vs. the employer organisation in making decisions on the selection of thesis topics. Such a decision starts with the student and is then discussed with the company and finally approved by the academics involved. In terms of tuition fees, Bachelor level studies are free, however Master level studies require tuition fees to be paid.

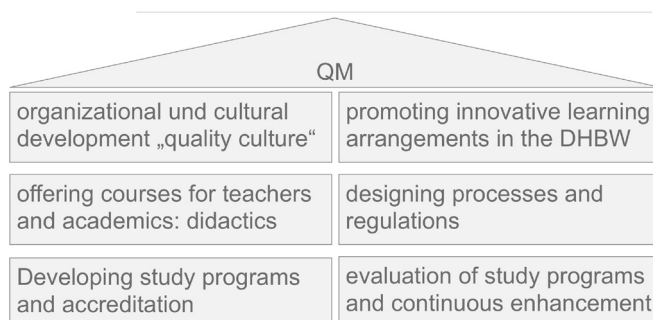
Ms Anne Steydli and **Ms Nathalie Hillenweck**, Strasbourg University continued by providing insight into the work-based study programmes in the Alsace region of France. There are two main types of programmes: apprenticeships under 26 years and 'professionalization' over 26 years and for those unemployed. Recent expansion of dual study programmes resulted in doubling the number of students during the past 13 years. In Alsace there are two universities, in Mulhouse and Strasbourg, and both are involved in the delivery of dual study programmes. There were 1900 dual programme students in the two universities in 2013.

The region has a highly important role in delivering the programmes, providing funding and management. Nowadays, the region applies a proactive mode i.e. they fund the programmes that are based on the training needs in the region.

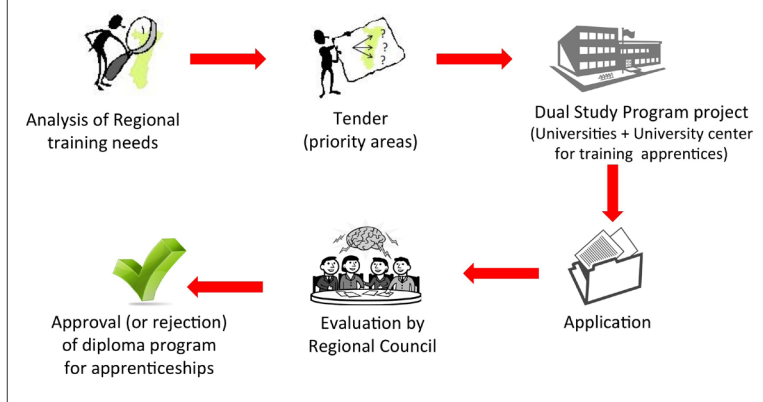
Based on this needs analysis the priority areas are communicated to the universities, who launch studies accordingly. The academics



QUALITY ASSURANCE AT DHBW



Since 2013 : Region has a proactive stance

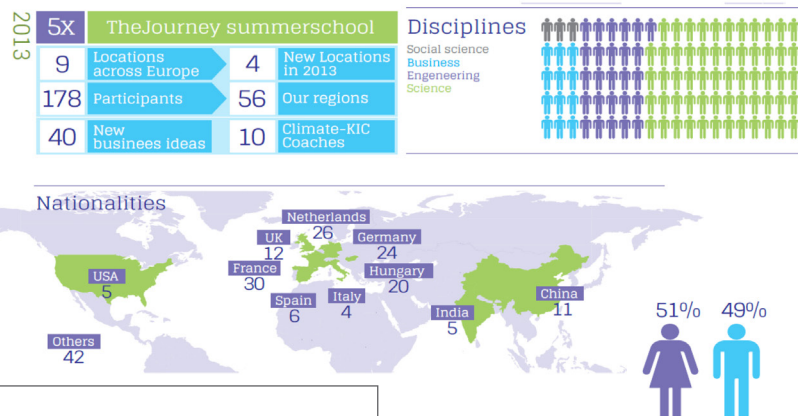


have to prepare draft projects defining the goals of the learning involved, then search for business partners and execute the proposals in partnership (upon the approval by the academic council). The region makes the final decision regarding the submitted proposals, taking into account whether they are in line with the identified regional priority areas.

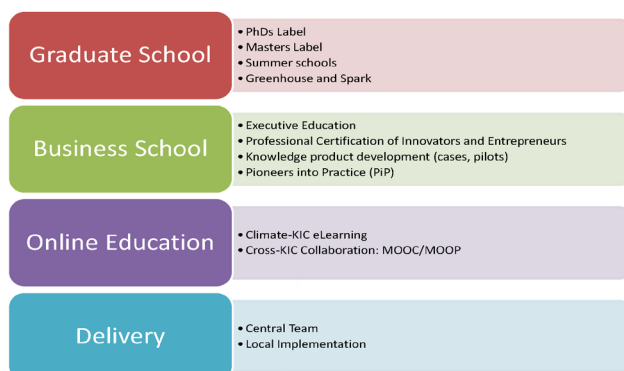
The last presentation of the session from **Mr Ebrahim Mohamed**, Imperial College London introduced the educational offer of the EIT Climate-KIC. The educational approach developed at Climate-KIC builds on the idea of establishing a talent pool by attracting elite graduates from top European technical colleges.

This involves the creation of the 'Journey', a five-week tour of Europe. It is organised over the summer and students get educated on different business models as well as technological knowledge. At the end of the Journey an integrated group comes, with new project ideas and solutions to be implemented jointly. There are three projects on-going as a result of these summer schools.

Climate-KIC Graduate and Summer Schools



Education Strategy 2015



The Climate-KIC educational offer has to face other challenges that result from the need for many professionals to change the course of their career. The shift towards renewable energies for example requires a large professional population to be retrained or employees laid off from different industries. Therefore the Climate-KIC decided to diversify its offer and focus on different areas: Graduate schools, building on top talents from strong technological universities; business schools and online education.

Session B - Adapting Higher Education to Lifelong Learning

Today the European workforce faces unprecedented challenges: increasingly competitive globalisation, demographic imbalances, economic uncertainty, and the rise of new technologies. It is therefore crucial that Europe encourages its citizens to develop new skills and acquire new knowledge on a continuous basis. To address the changing needs of companies and the labour market, universities are rethinking their educational offer, increasingly introducing lifelong learning.

At the heart of the lifelong learning concept is the idea of enabling and encouraging people 'to learn how to learn'.¹⁴ The presentations and discussions that were developed throughout the parallel session B were precisely looking into how this lifelong learning concept can be adapted to higher education institutions and companies in the collective aim to produce a better and more equipped workforce.

The session highlighted, in particular:

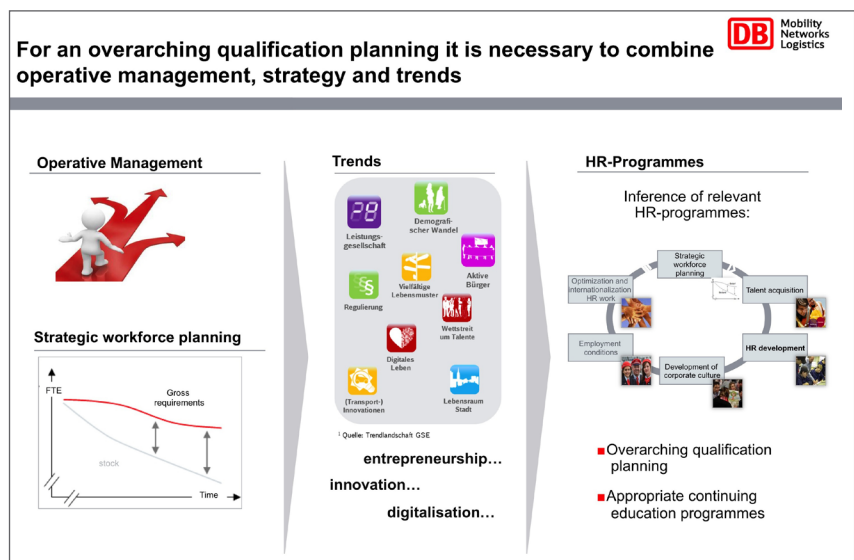
- The need for universities to adapt to the challenges of incorporating LLL in their activities and strategies
- University-business collaboration as a driving force for LLL-related activities
- The challenges and barriers of extending the LLL offer in HEIs

Workshop B.1: Embedding Lifelong Learning in Higher Education Institutions

The workshop explored how lifelong learning-related activities can be better embedded in the higher education institutions, and the challenges this brings. The session presentations highlighted the higher education and company perspective on lifelong learning, with examples of what companies look for and how higher education institutions are responding.

Professor Alfredo Soeiro (PT), a representative and a member of the Steering Committee of the European University Continuing Education Network (EUCEN) opened the session. In his introduction, Prof Soeiro stressed the growing interest and need for both companies and HEIs to introduce and nurture LLL.

The first speaker, **Mr Christof Beutgen (DE)**, Head of Employee Development Policies at Deutsche Bahn AG (DB Group) presented the company's perspective with a focus on internal qualification planning and the standards they have developed for vocational training. The DB Group is the second largest worldwide transport supplier with yearly revenues of around €2.5bn. The speed of the technological developments in the field has challenged the management to think about 'futurability of solutions' and associated training needs. In response to this, the DB Group HR management has set out three core pillars which drive their training offer: entrepreneurship, innovation and digitalisation.



¹⁴ FLLLEX Consortium (2012): Towards an institutional strategy for Lifelong Learning in Higher Professional Education, FLLLEX project Results and Recommendations.

The company recognises the importance of part-time studies and MOOCs as an alternative to traditional study programmes. This provides employees with the opportunities to create individualised learning pathways and gives every employee a chance to engage in lifelong learning. This has led to the development of three different approaches for further professional and career education:

1. The sponsorship concept – financial support or time off for employees to pursue additional qualifications
2. DB Weiterbildungskompass – a searchable internet portal containing course information for continuing education
3. DB Masterprogramm – 30 Master's student places for employees with at least 2 years of work experience at DB Group



By providing a variety of approaches, DB Group can cater for the different needs of employees who are taking up continuing education and training opportunities. Learners within companies will span age ranges, have significant commitments to family life and have different approaches to training. This is particularly important to take into account when addressing lifelong learning needs in companies as well as in higher education institutions.

These challenges were further explored in the presentation from **Dr Walburga Katharina Freitag (DE)**, German Centre for Research on Higher Education and Science Studies. Dr Freitag presented on

the developments and challenges for lifelong learning in German Universities. The German Centre for Research on Higher Education and Social Studies has been delivering long-term empirical studies on transitions between higher education and career paths, surveys on study conditions, as well as exploring the transferability of skills and knowledge from the lifelong learning perspective. Education in Germany is governed at the level of the Länder (federal states) and lifelong learning is traditionally seen to be of low relevance in HEIs. An adult education survey from 2013 showed that less than 6% of all non-formal continuing learning is provided by HEIs and only 4-6% of all students attend programmes which are designed for work and study.

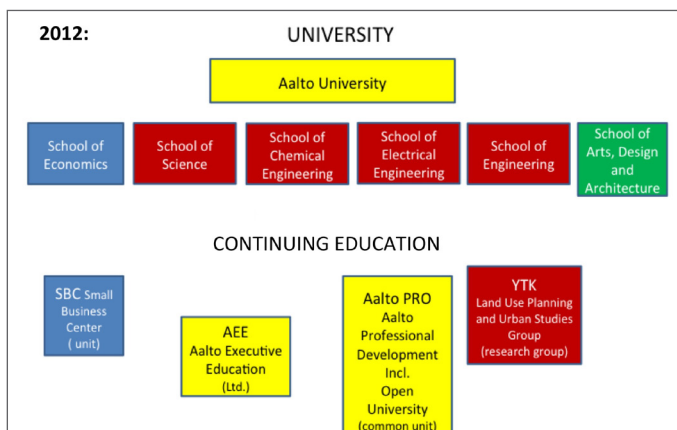
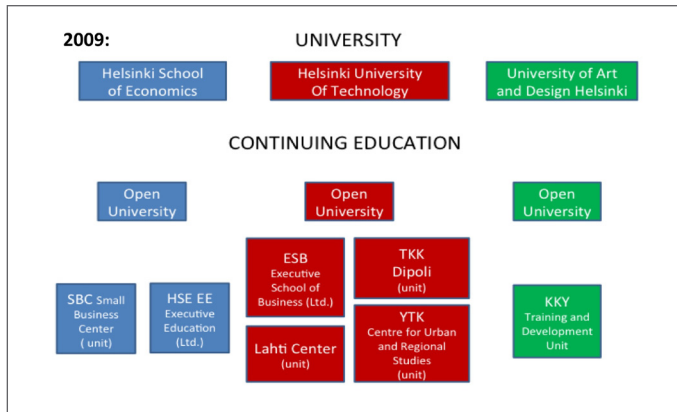
In spite of the current low status of lifelong learning in practice, the political level is more active. In 2002, new regulations and the introduction of accreditation of prior learning were put in place to improve the permeability between technical / vocational education and training (TVET) and higher education. In 2009 higher education study programmes became more open to students with TVET qualifications, increasing access. This has led to the development of study programmes designed for lifelong learning, as well as the introduction of approaches to support transition and transition management for non-traditional students.

In her conclusion, Dr Freitag stated that the objectives right now are to put forward innovative, demand-based and sustainable concepts for flexible study programmes at the Bachelor and Master level, including the accreditation and accumulation of certificates based on work experience. This action should target groups of non-traditional students, such as the employed, job-returners, people with families, dropouts, unemployed, academics, and people without higher education entrance qualifications.

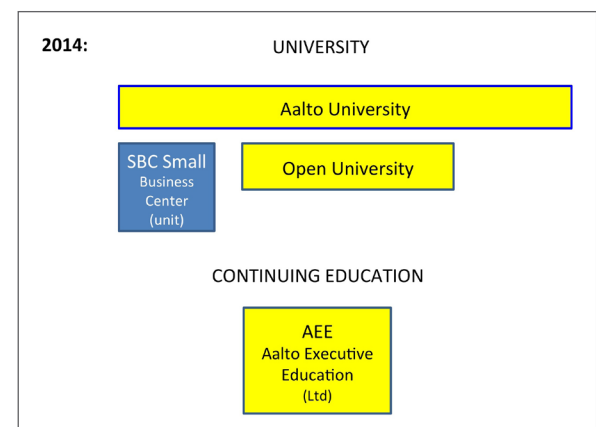
Ms Kirsti Miettinen (FI) the former Director of Aalto University Professional Development and the president of the University Continuing Education Network in Finland (UCEF), presented the strategy of Aalto University to embed lifelong learning in the university. The University Continuing Education Network in Finland (UCEF) is a cooperative organisation for all centres of continuing education in universities in Finland. Ms Miettinen showcased the different strategies of engaging lifelong learning into universities, including:

- A centralised unit with various outreach or advanced study activities
- A centralised continuous education or lifelong learning unit at the university level

- A decentralised continuous education programmes in faculties with a centralised service unit to support the delivery
- A joint continuous education unit based at the University of Applied Sciences
- Joint company for export activities
- A company model



The presentation also gave the practical example of Aalto University. After five years of development, Aalto switched to the company model of lifelong learning which is embedded in a spin-off called Aalto Executive Education Ltd (AEE). The company approach has cemented the buyer-supplier relationship between the AEE and the faculties at Aalto. This poses some challenges for non profitable programmes. The profitability question was discussed further in the debate following the presentations and whether lifelong learning can become a “revenue generator” for a university.



Discussion

The discussion focused on the importance of accreditation of prior learning and how the collaboration between universities and companies can bring faster changes in policy and practice in this regard. Another issue raised related to measurability, and also the profitability of programmes of LLL and continuous professional education. There were arguments that LLL is often regarded as a tool for employability and to a lesser extent for its additional benefits such as innovation and enrichment of employees. Participants raised the issue of developing better provisions for accreditation of short courses that can be more profitable and useful for both universities and companies, as well as different strategies for placing LLL into universities and companies. The end-users should also benefit from a more diverse offer that might suit their current life situations.



Workshop B.2: The Need for Strategy and Commitment

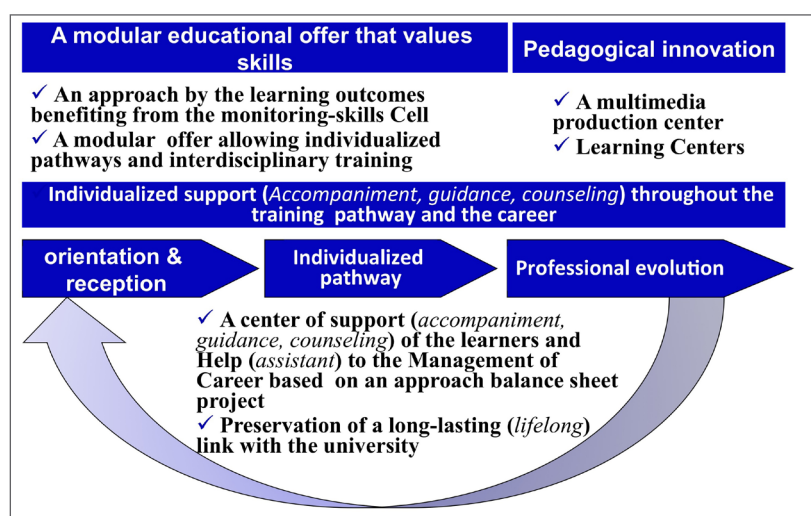
The workshop showcased a range of approaches, demonstrating the need for strategy and commitment if lifelong learning is to be fully integrated into higher education. The presentations also highlighted the barriers faced by higher education institutions and how they can overcome them to increase their contribution.

Key questions for the Forum:

- What are the main obstacles or challenges in the implementation of lifelong learning at universities?
- What kind of university support is needed by companies, regions and university management to support lifelong learning at higher education institutions?
- Which factors could enable universities and companies to undertake more in relation to lifelong learning for employees?
- How can employers encourage their employees to participate in lifelong learning?
- How can partnerships jointly develop relevant study programmes?

Dr Sigrun Nickel (DE) from the Centre for Higher Education moderated the session.

Professor Salah Maouche (FR), Vice president in charge of academic affairs at the Université de Lille 1, presented an innovative approach to a lifelong learning strategy. France has a difficulty in embracing the new paradigm, stemming from the closed mindset of the universities and lack of understanding of the need for change. There is little provision for accessing higher education from initial and continuing education and training. Nevertheless, the French higher education showcases pockets of good examples, such as the Université de Lille.



The approach taken by the University of Lille 1 is innovative, as it is attracting companies to engage with the institution to optimise the benefits of the French apprenticeship tax (*taxe d'apprentissage*).¹⁵ It creates opportunities for small companies to engage with the lifelong learning activities of the university. The university implements a learner-centred approach based on individualised pathways. It has set up a modular education offer and recognises the experiences of people who apply for their programmes. One of the reasons for this is that the more traditional approach of early specialisation and 'organ tube' curricula has not proven

to be sustainable for the demands of the future labour market. To implement the learner-centred approach, the university transformed both its educational offer and the pathway of delivery.

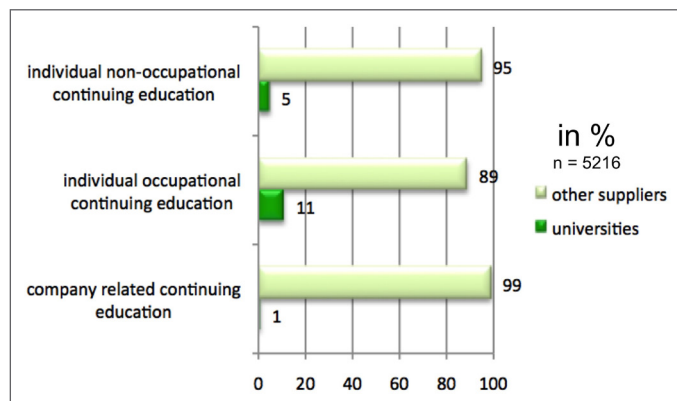
Dr Michael Mesterharm (DE), representative of AutoUni at Volkswagen AG presented the lessons learnt from university-business knowledge exchange through the example of AutoUni, a Volkswagen Group institution of further education. Dr Mesterharm introduced the concept of corporate universities, such as AutoUni. The corporate universities are departments that cooperate closely and exclusively with some universities to establish academic courses that would benefit a certain company. Volkswagen links, in this manner, with universities and research institutions from all over the world. There are nine institutes of AutoUni, each for a different segment of

¹⁵ For further information: <http://www.univ-lille1.fr/Accueil/Entreprise/Taxe+d'apprentissage/>

¹⁶ http://www.tu-dortmund.de/uni/International/Organization/Central_Institutions/Centre_for_Higher_Education/index.html

the work done in the automobile industry. Inside these institutes, academics and HR experts jointly cooperate to develop curricula to suit the demand from industry as closely as possible. The AutoUni provides following formats of courses: lectures, conferences, modules and programs. Modules and programs are formats of present and blended learning over a time period of 6 month. Many of the courses focus on very specific training and support needs. The modules are linked to ECTS (the European Credit Transfer System). All courses are based on the latest information and developments in technology. Currently, Volkswagen has 1500 cooperation with 220 universities, in 29 countries. Dr Mesterharm ended with an overview of the benefits of the collaboration and most significantly stressing the value of the payback when companies invest in such tailor-made work-related education programmes.

Professor Uwe Wilkesmann (DE), Director of the Centre for Higher Education at the Technical University of Dortmund¹⁶ explored the reasons behind the low levels of lifelong learning–related activities at German universities. Professor Wilkesmann defined university related lifelong learning as the continuation of scientific development during or after work experience. The idea of scientific development only happening during or after employment is very important as without this input, it is not possible for students to connect learning to practice, reflect on their skills and develop further. Nonetheless, this calls for a more student-led and student-oriented approach in universities so they are equipped to make these connections.



Even though there are many benefits from this type of approach, in Germany only 5% of non-occupational continuing education is delivered by universities.

In exploring the reasons for this, Prof Wilkesmann mentioned some of the possible bottlenecks such as a lack of commercial interest shown in EU funding. The latter requires universities to carry out full cost accounting for continuing education-related activities carried out as commercial activities. Education in general may be seen as a public good but continuous education and work-related professional development are still seen as a private / corporate benefit. Additionally, as echoed by the

previous speakers, lifelong learning is generally delivered outside of the university setting, creating fewer opportunities for an integrated approach. Finally, university staff are still reticent to take this on which causes a lack of motivation to deliver lifelong learning courses.

Discussion

In the discussion which followed, the participants in particular noted the AutoUni offer and asked what other added value there was in terms of additional skills development. In this case, there are considerable opportunities for developing additional soft skills and opportunities for further personal development. The programmes are customised and highly student-friendly. This makes them very attractive in particular to individuals who are seeking a career in the automotive industry. This involves considerable "fine tuning" of the courses, something which is done in collaboration with academics. The curriculum not only suits the needs of Volkswagen but also provides the quality and credit expected from an academic course at the right cost.

There was a debate on the diverse offer of continuous professional education from master's programmes to short courses and how universities need to adapt to deliver a range of offers.

Regulation was also raised as an issue. Is there a need for more regulation on an EU or Member State level in relation to lifelong learning? Overall the participants and the presentations support the bottom up approach to creating lifelong learning offers through good collaboration with industry.

Session C - The Impact of University-Business Cooperation

Cooperation between universities and businesses takes many forms and embraces a diverse set of research, education and third mission-related activities. It includes for example transnational collaboration facilities aligned with the needs and opportunities of the region; one-stop advisory services for SMEs that pool together the expertise of all HEIs and research organisations in the region. Other examples include professional development programmes; an increased focus on mobility between HE and industry to transfer knowledge and innovation to SMEs and other organisations (such as Knowledge Transfer Partnerships in England), or graduate retention and talent attraction policies that are aligned with the regional priorities.¹⁷

This session of the Thematic Forum explored the types of impacts and benefits University-Business Cooperation delivers to engaged. In particular, the session discussed:

- The two-way process of impact generation through University-Business Cooperation from the perspective of regional economies and regional development, smart specialisation and sector-based clusters
- The methods and approaches used to capture the benefit and impact of university-business collaboration

Workshop C.1. Connecting Higher Education Institutions to Regional Development

Dr Isabel Rohner (DE), advisor for Higher Education Institutions (HEIs) policy of the Confederation of German Employers' Associations, moderated the session. Dr Rohner set the scene for the workshop, underlining the importance of improving collaboration and networking between HEIs and companies. This is set against a backdrop of a decreasing number of skilled workers in the western world and the serious issue of youth unemployment in southern Europe.

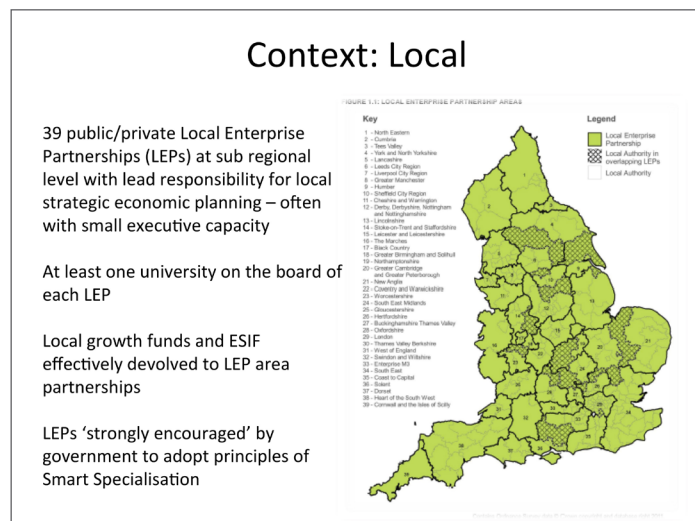
All presenters introduced success cases of cooperation and diverse types of network creation.

The first speaker **Mr Kevin Richardson (UK)**, local growth expert advisor from the Higher Education Funding Council for England (HEFCE),¹⁸ presented on the role of smart specialisation and its relevance for University-Business Cooperation. HEFCE is responsible for the distribution of funds to HEIs in England, allocating £5.3b in 2013, in order to support institutions with teaching and learning. HEFCE is also involved



in widening participation and developing links between HEIs and companies. In addition, it supports a smart specialisation advisory hub for 39 Local Enterprise Partnerships (LEPs)¹⁹ in England to develop proposals to support innovation.

The experience of smart specialisation in England started with the development of a national innovation strategy that involved companies and leading academics, identifying 11 sector strategies and “8 great” technologies. A government “localism” agenda, led to the closure of the Regional Development Agencies and the establishment of the LEPs.



¹⁷ See also: European Commission: The role of Universities and Research Organisations as drivers for Smart Specialisation at regional level, 2014

¹⁸ www.hefce.ac.uk/

¹⁹ For further information on the LEPs, please see: <https://www.gov.uk/government/policies/supporting-economic-growth-through-local-enterprise-partnerships-and-enterprise-zones>

Universities play an important role in the work of the LEPs, they are embedded within the community and understand the historical assets and cultural environment of the local economies. With further local government cuts on the horizon in the UK, LEPs and universities within the LEPs' innovation committees need to play a strong role in regional growth. England has a system with a good track record of carrying out collaborative research, and universities can help local companies cope with globalisation and other business needs. LEPs are given resources to respond to local needs, and at the same time, the freedom to succeed and to fail on their own merits. It is expected that this local approach will lead to a higher potential impact of university-business collaboration and will limit future failed investments.

The following discussion touched on the trade-offs between the need for universities to build excellence in research and teaching and their 'third mission' role of supporting local growth using smart specialisation. Other questions focused on the lessons learned from the reflective process of critically appraising what makes sense in each local environment, and the degree to which these initiatives are already delivering tangible results.

The next speaker, **Ms Elianne Demollins-Schneiders (NL)** from the Zuyd University of Applied Sciences Heerlen, presented the experience of the European Real Life Learning Lab Alliances (EURL3A)²⁰ project. The EURL3A project ran from January 2013 to August 2014 and involved six partners from three different EU countries. It was funded through the Knowledge Alliances Initiative of DG Education and Culture (DG EAC) and aimed to create structured cooperation ventures between universities and companies, with a strong emphasis on curriculum development and more efficient post-curriculum career developments. In this approach to network creation, HEIs are in the centre and act as the knowledge infrastructure.



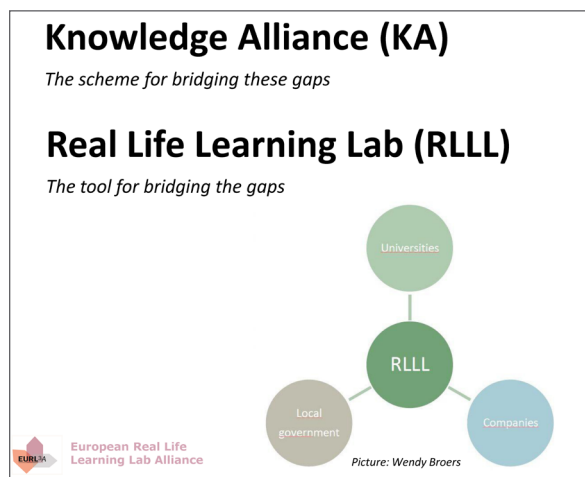
Funding cuts in institutions have caused a shift to multidisciplinary education models where engineering, social and economic skills are all applied to solve specific business problems. Involving

students with company staff early on in their higher education studies was presented as a way to create more adaptable professionals. The approach of the EURL3A project does this while also providing international mobility for the participants. Success stories involving HEIs in the Netherlands, the Czech Republic and Slovenia were presented.

Through the multidisciplinary activities, the project will lead to the rejuvenation of regional industry. Zuyd for example is characterised by small companies and a construction sector which was hit hard by the economic crisis. Capitalising on the prevalence of small companies in the regions involved in the projects, Real Life Learning Labs (RLLL) were established where students and company staff come together to refurbish

existing buildings and turn them into Nearly-Zero Energy Buildings (NZEBs). This has strengthened competences and the relationships between the companies and students, as well as enhancing mobility and opening up opportunities for more collaboration between the participants.

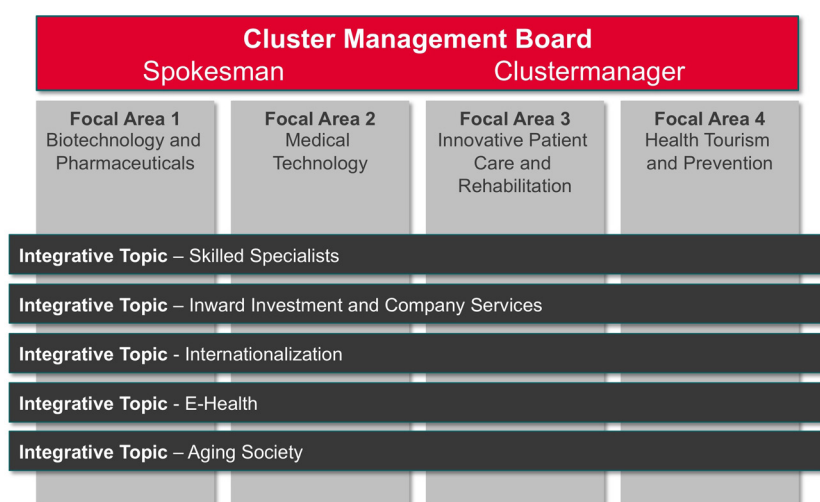
The discussions touched on how flexibility in the curricula is a key aspect in improving collaboration with industry. This is not easy to



²⁰ Project website: <http://www.eurl3a.eu>

put into practice, with some reluctance from professors to adapt content to the challenges of companies and market conditions. At the same time, this type of approach is beneficial for the financial conditions of the institutions and the need to maintain quality education and produce employable graduates.

Dr Rolf Strittmatter (DE), from Zukunfts Agentur Brandenburg presented a top-down approach to developing a regional life sciences cluster. The cluster is an example of a network driven by economic actors, including the business federation and chambers of commerce and crafts. The Land Brandenburg has nine different technological clusters, with this presentation focused on the approach taken to draft the cluster strategy in the life sciences sector. The activity of the cluster in the region is comparable to Ireland in terms of GDP, Finland in terms of population and Belgium in physical size. Although Brandenburg is a leading region in Germany in terms of excellence of its scientific landscape, investments in research are still highly dependent on public funding and the implementation of scientific results in the economy remains a challenge.



In order to tackle the issue a political decision was taken to implement a joint innovation strategy²¹ for two Länder Berlin and Brandenburg and nine different clusters were identified through a top down approach, followed by activities developed bottom up. Cluster activities focus on the drafting of a strategic plan, defining fields of activity and launching pilot projects. Knowledge and technology transfer activities were launched, including measures to support international cooperation, market access, profile building and marketing as well as the identification of cross-cluster-innovation opportunities.

A key success factor in making the cluster work is strong collaboration. The higher education institutions take a central role building human capital and skills in the region, defining new projects for the cluster, helping the cluster channel funding to activities and carrying out dissemination and outreach activities. HEIs are also the main structures that enable knowledge creation to regional companies and hospitals (e.g. research finder resources, transfer platforms, translation centres and valorisation agencies for academic intellectual properties rights generated).

To make all these interactions work, Dr Strittmatter stressed the role of cluster managers as translators between hospitals, companies, academia and other economic actors. The main lesson learned is that cluster development requires some top-down decisions combined with an integrated approach that engages different stakeholders. This process of strategic planning has supported the development of operational programmes for the two Länder.

The discussion explored the issues of transferability of the approach. For this to work elsewhere, there needs to be a good understanding of the main strengths and assets of a region from a thematic perspective. A planning process must ensure it is playing to the regional strengths and existing capacity, which needs to involve all of the different stakeholders.

²¹ Further information: <http://s3platform.jrc.ec.europa.eu/home>

Discussion

A question of employability and the nature of student involvement in the networks arose. There are several approaches taken, from students being involved from the start of a process through to more defined approaches, such as involvement in internships and dual study programmes. In all cases the added value must be clear for the companies for this to work on a long-term basis. The approach to smart specialisation in England has always been inclusive, in an effort to understand the different forms of investment in human capital. There are challenges in ensuring that urban and rural areas have differentiated approaches to tackle issues of employability in different environments.

The participants also explored the feasibility of developing coherent national and regional strategies. In the English case, there is some tension between the national strategy and that of the 39 different LEPs. Such tension is inherent in many types of policies, where states want to stay in control but also recognise that things need to be pushed forward in a more nuanced way. The national strategy tries to set a common framework and to provide different options for specialisation, encouraging LEPs to identify their own strengths and specialisms. LEPs have the challenge of ensuring that local strategies do not only favour the local elite. Universities play a key role in this, offering services to the local partnerships and local community.

Workshop C.2. Capturing and Demonstrating the Benefits of University-Business Cooperation

Workshop C.2 focused on the methods and approaches that are used to capture the benefit and impact of university-business collaboration.

Dr Adrian Healy (UK), Cardiff University, moderated this session. HEIs are increasingly being asked to act in many roles and are expected to be connected, embedded and entrepreneurial institutions. University-business cooperation (UBC) in the field of education is part of this agenda. Universities have been doing this for decades, but now UBC is in the spotlight, seeking to incorporate ideas of co-creation and co-production of knowledge, no longer limited to traditional knowledge transfer. The benefits of this new approach are of both quantitative and qualitative nature, short term and long term, tangible and intangible, direct and indirect. Capturing the variety of impacts and effects and measuring them is a tough challenge.

The first speaker, **Dr Cristobal González (ES)**, from the Department of Financial Economics at University of Valencia (UV)²², highlighted the case on how UV adapted its training offer in response to the development needs of the financial sector institutions in the region. Back in the 1980s, the banking sector in Spain requested the development of a master's course on banking management in response to the deficit of skills in this area. This initiative was one of the first Master's programmes in the country to have jointly developed curricula with companies in the sector. Due to the universities' lack of flexibility in Spain, the master's programme was delivered through UV's foundation ADEIT²³, and the programme has now been in operation for more than 20 years.

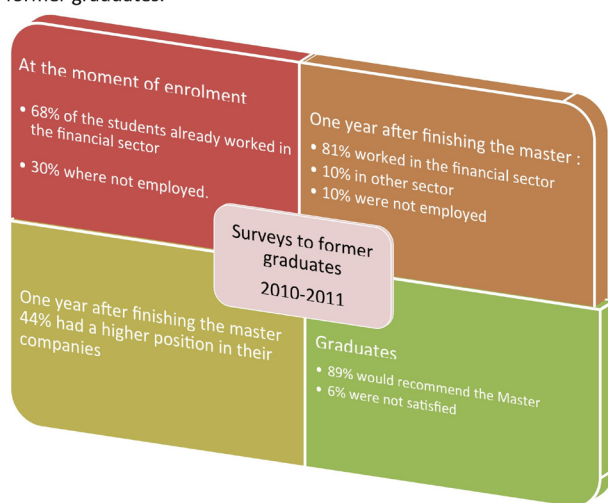
Dr González reflected on the success factors in this process including, being a first mover, ensuring the courses are constantly adapted to changing need and the engagement of alumni in continual professional development. There are a number of positive outcomes including new research projects between the banking sector and the university, placements for students and the development of an



²² <http://www.uv.es/uvweb/economy/en/faculty-economics-1285848977403.html>

²³ <http://www.adeituv.es/en>

Measures to assess outcomes: Regular follow-up of the course. Surveys to former graduates.



informal professional network in the region. To measure the impact of the collaboration, ADEIT carries out regular follow up surveys.

As the programme is self-financed, ADEIT takes particular note of the satisfaction rates and adapts the curricula in response to market needs reported by alumni. In 2014, the example was selected by the European Commission as a case of good UBC practice programmes.²⁴ The recent economic downturn and restructuring of the banking sector in Spain are now putting this approach to the test.

Dr Pascal Hetze (DE), Head of the Programme of Analyses and Innovation Policy at the Stifterverband für die Deutsche Wissenschaft, presented the results of an economic impact analysis of higher education institutions.²⁵ Dr Hetze's presentation first reflected on the fundamental theory of the benefits of

University-Business Cooperation. Universities have wide positive impacts on society and the economic impact is usually underestimated.

International comparisons show a positive relationship between Gross Domestic Product (GDP) and investments in HEIs. The presentation highlighted the benefits of UBC from a regional economic perspective in terms of additional demand for goods and services (from students and employees) generated in the area, reduced regional unemployment, and increased GDP industrial investments in HEIs.

Dr Hetze commented on the specific impacts, also presenting results from the 2013 Schubert and Kroll study on HEI impact on innovation.²⁶ The impact on innovation by HEIs is higher than on goods demand. For every euro invested in a university, there is an increase of between two and three euros in local GDP. HEIs are estimated to create an economic value of €190b, around 7.3% of Germany's GDP. With regional differences, this value added is up to 16% of regional GDP in some German Länder. The size and fields of expertise of the HEIs and the structure of the local economies cause this variation, supporting the notion of having to adapt programmes to specific regional contexts.



For individuals, a good education means a lower unemployment rate. In Germany, unemployment rates are three times higher for people without an academic degree than for those with higher education. Other EU economies present similar ratios. The study showed that the presence of an HEI could reduce the regional unemployment rate by 30%. The strongest effects were in metropolitan areas but the study also identified impact in rural areas. In terms of wage premiums, other studies show around 8% wage premium in the US and up to 20% wage premium in Sweden for people with higher education.

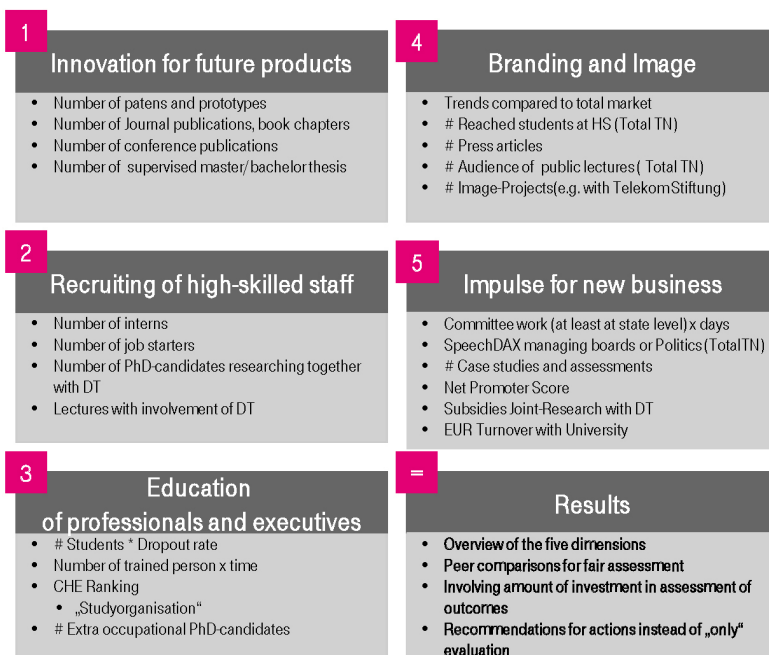
In conclusion, the main impacts of HEIs are investments from external funds of industry partners, supply of highly skilled graduates, scientific output (publications) and expenditures for staff. In terms of positive effects on employment the main factors are external funds of industry partners, supply of highly skilled graduates and investments by HEIs.

Mr Markus Lecke (DE), Head of Education Policy at Deutsche Telekom showcased the company's HEI cooperation strategy, highlighting the impacts and benefits of University-Business Cooperation from the business side of cooperation. Deutsche Telekom is a company of 229,000 employees, spanning 50 countries across the world. In Germany Deutsche Telekom has over 9,100 trainees, many of them

²⁴ Dr. Healy, A at al: Measuring the impact of university-business cooperation, Luxembourg: Publications Office of the European Union, 2014 http://ec.europa.eu/education/library/study/2014/university-business_en.pdf

²⁵ http://www.stifterverband.de/wirtschaftsfaktor-hochschule/wirtschaftsfaktor_hochschule.pdf

²⁶ Henning Kroll and Torben Schubert (Fraunhofer ISI): On universities' long-term effects on regional value creation and unemployment: The case of Germany, Karlsruhe 2014, http://www.isi.fraunhofer.de/isi-wAssets/docs/p/de/arbap_unternehmen_region/2014/ap_r1_2014.pdf



in dual study programmes.

The company's perspective focuses on the management and monitoring of a large portfolio of collaborations with universities and other research institutions. This portfolio management approach includes an evaluation framework to measure the success of specific collaborations against several dimensions.

At any one time there are more than 200 active collaborations underway and each of them has a different focus. These profiles are shown in scorecards, together with an assessment of what to do in general terms (strengthen, maintain or conclude). The scorecard approach helps Deutsche Telekom profile their collaborations across several criteria and have an overall view of their portfolio of activities. Deutsche Telekom has a case study framework

and rates this key group of collaborations in terms of relevance, efficiency and effectiveness. In addition, feedback is collected on expectations both from the research organisation's side and for the business unit or department within Deutsche Telekom.

The aim of this approach is to maximise the impacts and benefits from the companies' side of the cooperation, with the ultimate objective of maintaining the competitiveness of the company while keeping their staff employable in the face of fast technological changes. Mr Lecke reflected on the history of the company, which started out as a telephone company in the 1950s and has since transitioned to mobile, cloud and big data technologies. In order to keep the company fresh and address present and future challenges, Deutsche Telekom needs to cooperate systematically with universities, measure the impact of collaboration and ensure communication and understanding between the two.

Discussion

A key issue is the sustainability of collaboration. How to ensure that collaborations continue, and remain effective. In the case of UV, the flexibility of curriculum development combined with the long-term commitment secured from the banks were the most important drivers resulting in sustainability while keeping the content relevant and of high quality.

From the business perspective, there is a strong focus on determining expectations and defining contracts and deliverables with universities. At Deutsche Telekom most of the collaborations last between 3-6 years. To build mutually beneficial relations the company shares the results of such analyses with the universities. This approach helps both sides to understand success factors and improve collaboration.

Another important aspect highlighted during the discussion focused on sharing the results, including the intellectual property rights of collaborations. Companies that invest in collaboration also have high expectations of returns, including the appropriation of intellectual properties. However, flexibility and compromise is needed from the collaborators, understanding that expectations might differ regarding sharing the outputs generated on a project-by-project basis.

Session D – Higher Education and Entrepreneurship

Higher education is an ideal environment to develop and foster entrepreneurial qualities and skills and to help develop potential entrepreneurs and enterprising individuals. Many universities are aware that in order to add value in this quest for entrepreneurship, significant changes are needed. Some institutions are already well ahead on this road, but for many others, the challenges are still substantial.

In particular, the session explored:

- What is the common understanding of the role of higher education institutions in fostering entrepreneurship? What are the main expectations?
- Universities and their partnerships. What does the notion of entrepreneurship imply for university-ecosystem relations?
- Universities and their internal human capital. What does the notion of entrepreneurship imply for staff and for students? And how can an entrepreneurial spirit be created among university's staff and students?

Workshop D.1 Stimulating Entrepreneurship in, and through, Higher Education



The session, Stimulating Entrepreneurship in, and through, Higher Education explored the notion of entrepreneurship and what it entails to become an entrepreneurial university. Examples presented during the session showcased how universities can identify and overcome some of these issues, for example, become more open to recruiting staff that have entrepreneurial attitudes, behaviour and experience; or by applying unconventional incentives for existing staff members.

Mr Christian Tauch (DE), German Rectors' Conference welcomed participants to the session. As an introduction to the topic Mr Tauch told the story of a failed entrepreneur in the US who set up a conference for like minded individuals which became extremely

successful. The idea that failed entrepreneurs can come together to exchange experience on failures and the process of destruction and reconstruction, reflects the entrepreneurial mindset and is far from the culture seen in Europe.

A number of key questions were set out to guide the inputs for this session:

- What is the common understanding of the role of higher education institutions in fostering entrepreneurship?
- What does the notion of entrepreneurship imply for university-ecosystem relations?
- Universities and their internal human capital. What does the notion of entrepreneurship imply for staff and for students?

The first speaker was **Professor Margareta Norell Bergendahl (SE)**, from the Royal Institute of Technology Stockholm presenting Open-Lab,²⁷ a centre where students, educators and researchers from Karolinska Institutet, KTH Royal Institute of Technology, Stockholm University and Södertörn University are working on challenges faced by the City of Stockholm, Stockholm County Council and Stockholm County Administrative Board. The focus of Open-Lab is on challenge driven education. For KTH, the entrepreneurial

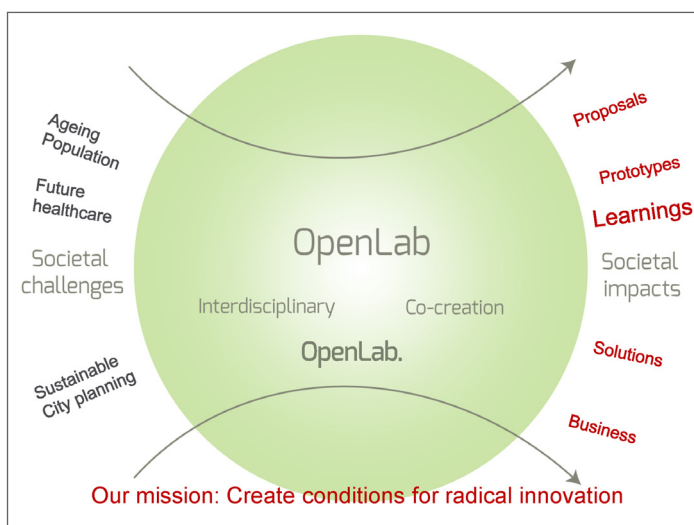
²⁷ <http://openlab.se/en/>

university is not a way to deliver projects, companies or new innovations but is a way to deliver entrepreneurial people. Therefore it is important to develop an ecosystem which includes education, research and innovation so that the highest quality of entrepreneurial education can be delivered.

In the last few years KTH has developed a number of good strategic relationships with companies to help foster this ecosystem. Reflecting on the way in which the university works with companies, this has been changing, moving from good personal relationships to longer term strategic partners. This is an important shift for the university and the new model of strategic partnerships includes mobility from companies into the university. KTH has doubled its number of visiting lecturers from industry and introduced supporting measures such as a forum ensuring that feedback from these new positions can input to the working models of collaboration.

Open-Lab, is a key part of the collaborative approach of KTH. The universities, county council and City of Stockholm are committed at the highest level to creating a laboratory where all students meet to work with societal challenges. The external partners play an important role in defining the challenges and commit to providing real problems for students to address.

The idea is not to solve the problems but to develop proposals for solutions and prototypes. To date there have been five courses working on projects including quality of life issues for the elderly, improved city planning and food waste. The collaborative element of Open-Lab has been an important outcome and many of the students carry on working together after the projects.



In the following discussion, Professor Margareta Norell Bergendahl clarified that the Open-Lab is not mandatory for students yet and is typically offered at the Master's level. There are currently only around 25-30 students per course, and it takes around half a year to deliver the projects. Students receive credits for their involvement.

The next speaker, **Mr Lucas León (ES)**, presented the story of the company Akvolution GmbH and the support it received on its journey which led to its successful start-up. The company story provides an example of how a technological idea coming out of a university can become a successful start-up if there is access to the right people, the right support and the right funding at the right time. The start-up benefitted from a German "exist" R&D grant²⁸ as well as a Climate-KIC²⁹ start-up grant.

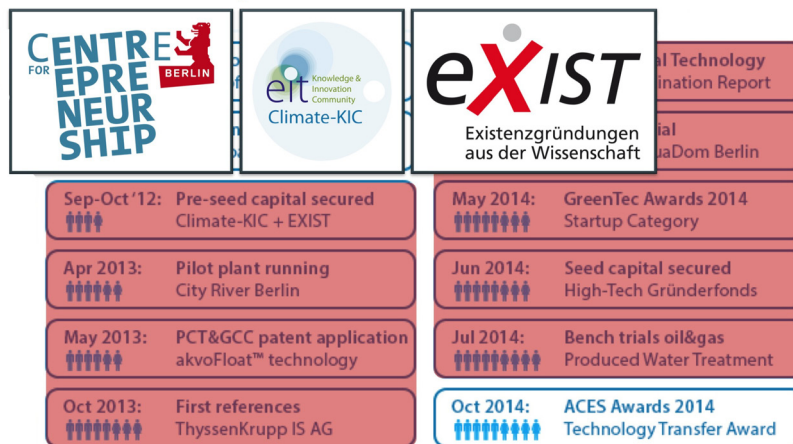
Akvolution GmbH is a spin off from Technical University of Berlin. The company specialises in water treatment. The idea for the company came from a PhD and a Master's student at the Technical University of Berlin, stemming from the fact there is a lot of water, but much of it is undrinkable - so how can salty water be made drinkable through affordable treatment processes. The technology designed could provide drinkable water using 90% less energy and 20% less space than other market leaders. The university provided a mentor, a strategic advisor and a technical advisor, a requirement for any start-up wanting incubator space. Mr León was recruited to the team to help with fund raising and management. Through the 'exist' programme, the start-up was able to raise €500,000 which was matched by university.

The 'exist' programme in Germany fills the gap between ideas and commercialisation and this funding made the start-up attractive to private capital investment. After a first pilot in the river in Berlin and the creation of the company, a second pilot led to the company

²⁸ Further information on the programme of the Federal Ministry of Economics and Energy: <http://www.exist.de/>

²⁹ <http://www.climate-kic.org/start-ups/>

akvolution's History



raising a six-digit investment from a Venture Capital fund. Since July 2014 all public funding has finished and the company now has nine staff. Reflecting on their experiences, the process of building the company from idea to commercialisation was good but there could be room for improvement, particularly in relation to the support provided by the university. Being part of the university is important in terms of access to staff, talent and facilities. The university is less well equipped to help provide the links to industry and there is not university buy-in for start-up support. This was however enabled

by the incubator. Intellectual property (IP) can be a problem but the company was lucky as the university did not ask for any of the IP rights. The process of working with the university becomes very personal, this is where relationships matter.

This start-up company represents in many ways an important example of how individuals with a good idea can use all the resources at their disposal in order to successfully go through the process from ideas to commercialisation. Mr León was an important addition to the team as he brought with him the commercial competence in a broader field (water utility) and understood the science. Bringing this group of individuals together provided the right mix of skills to enable the company to have the technological and the business skills in place from the start.

The next speaker, **Professor Christine Volkmann (DE)** University of Wuppertal provided an insight into an ongoing study for the European Commission on “supporting the entrepreneurial potential of higher education”. This study is responding to the need for stronger evidence base of the entrepreneurial potential of higher education, investigating activities which have a particular impact on the educating students, including both curricular and extracurricular offerings as well as the institutional dimension of entrepreneurship in higher education. There will be 20 case studies, each on a different university from different countries. The intention is not only to study high profile universities but also to investigate the types of approaches at less high profile universities, the “under the radar” cases, taking into account geographical coverage, size of universities and other specific institutional aspects – the important factor is the uniqueness of approach. The cases have now been selected and Professor Volkmann gave a flavour of some of the examples. The University of Huddersfield are the UK winners of the Entrepreneurial University of the Year 2012 and University of the Year 2013 and provide a very interesting case of magazine design and production. The University of Linz (AT) has a patent based business planning course which involves interdisciplinary cooperation with patent scouts. The University of Valencia provides an extra-curricular example of a summer school for professors promoting the entrepreneurial spirit. The University of Southern Denmark provides an institutional example of IDEA – a cross-faculty and cross-campus entrepreneurship centre. There are many interesting and heterogeneous concepts across Europe. An important driver is the strategic intent of the university to enable entrepreneurship. The social, economic and political conditions are also important. A lack of resources can be a barrier, especially to sustainability, where activities are funded through time bound programmes.



Discussion

The session discussion highlighted the need to bring together the different cultures from the public and the private sector from an early stage in the development of entrepreneurship, including at the school level. Entrepreneurship is not just about creating start-ups but also about mindset, behaviours, skills and capabilities. This means that professors and teachers also have to be well equipped to trigger these skills and it is good to see examples of schools for professors and teachers and not just students. Although entrepreneurship has been on the agenda for many years, it is a moving target, with new concepts, relationships and challenges being brought into the equation. The move from seeing entrepreneurship as an important concept in business schools and in science and technology to a much broader base including the social sciences and humanities is a welcome development. There remains a problem of incentives for professors in universities whose main output is publications and there is less impetus to invest in entrepreneurship and commercialisation of results. However the University of Strathclyde provides an example of where competition is rife for professors to have their own start-ups so times are changing.

Workshop D2. Developing an Entrepreneurship-friendly Ecosystem for Higher Education

The session, Developing an Entrepreneurship-friendly Ecosystem for Higher Education explored some of the key ingredients which are necessary for creating the right kind of ecosystem to generate entrepreneurship. A key outcome from the session was an understanding of the many roles a higher education institution can play in an entrepreneurial ecosystem which needs to be driven by the ultimate needs of the system rather than the institution.

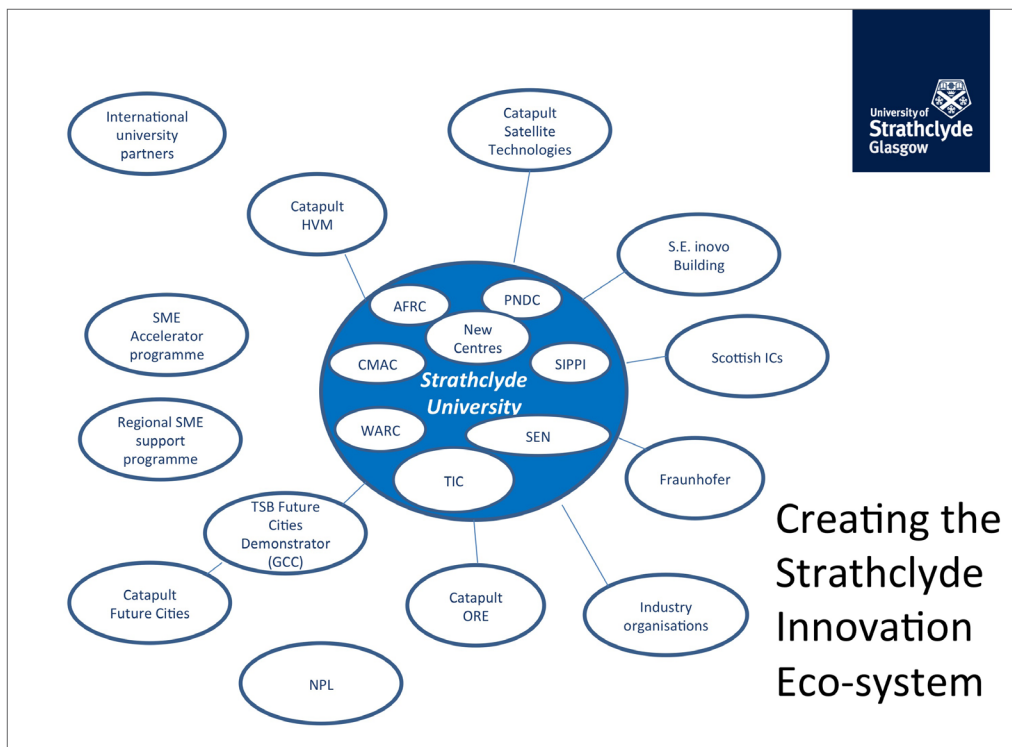
The session moderator, **Mr Henning Dettleff (DE)**, from the Foundation for International Business Administration Accreditation (FIBAA) asked the question “what can universities and companies do in order to foster an environment which is conducive to entrepreneurship?” If universities limit themselves to implementing the curriculum they may gain good ideas but this will not necessarily lead to jobs on the labour market. Entrepreneurship depends on a much wider set of variables which links many regional and national actors together in order to create the right environment for growth.

The first speaker, **Professor Tim Bedford (UK)**, Strathclyde University presented on how Strathclyde built an entrepreneurial ecosystem around a university.

The journey of Strathclyde starts from the position of an institution with a mission to create useful knowledge “the place of useful learning”. It has made a transition from personal contacts to strategic partnerships through to the entrepreneurial university³⁰ of the year 2013. The definition of an entrepreneurial university at Strathclyde University includes societal impacts, people and the community that surrounds it. The community includes for example staff, students, alumni, people from collaborating companies, non profit making companies and public authorities. People have a strong emotional connection with Strathclyde and this helps drive the relationships. The university leadership has looked at its component parts as a way of understanding what happens and why? Its strong leadership typifies the university.

Giving some examples of activities at Strathclyde, Professor Bedford highlighted the enterprise hub, the knowledge exchange fellows (a category of staff appointed on academic scales to do knowledge exchange), a new Technology Innovation Centre in Industrial collaboration. The university has adopted a new set of values which are people oriented, bold, innovative, collaborative and ambitious. Proposals for entrepreneurial ideas are judged against these values. The Strathclyde Entrepreneurial network is a collaborative network bringing together the University’s academic and professional services, SEN is the one stop shop for Strathclyde students, alumni and staff who are keen to develop enterprise skills or are looking to form and grow new businesses. The network recently won the Converge Challenge Award. A key message from Strathclyde is that people want to give something back to the institution and these strong ties create the ecosystem.

30 Further information: http://www.strath.ac.uk/press/newsreleases/headline_772851_en.html



The question and answer round explored in more detail the driving forces behind Strathclyde and its success. Professor Bedford stressed the important role of the Vice Chancellor in his vision. He also explained how the notion of the entrepreneurial university has changed since the Burton Clark model³¹, and that universities need to decide upon what they are aiming for according to their own environment. The largest faculty is the Humanities, Arts and Social Scientists and many businesses start from these disciplines. Further detailing the type of person who fulfils the role of the knowledge exchange fellow, these are not business development people, they usually have a PhD and are carrying out a function at the appropriate academic level. It allows for flexibility in the requirements for promotion which are not just based on research papers. Finally, Professor Bedford set out how important it is to flexibly support the local ecosystem and there are at least eight different forms of collaboration which take place within Strathclyde allowing the university to adapt to the external cultures and requirements.

Mr Gabor Bojar (HU), founder of Graphisoft SE and AIT Aquincum Institute of Technology told the story of his own journey through business creation to the set up of the AIT. He argued that for good collaboration to work, you need to speak a common language and that both sides need to agree on what good innovation means. Not everyone should be an entrepreneur and sometimes it is luck rather than design. Mr Bojar started his company in Hungary in 1982 when there were no up to date computers, no access to capital and no access to international markets or passports. By 1989, Graphisoft SE had opened an office in San Francisco and received significant publicity as a Hungarian company. By 1998 it floated as an initial public offering on the Frankfurt stock exchange for 350m dollars. Starting up in Hungary could be seen as an advantage because the lack of free movement meant that the company had access to all of the best talent in the country. Graphisoft SE was the first company to do 3D architectural modelling on a PC.

Throughout his working life Mr Bojar noticed one key issue with these excellent students, they wanted to impress each other rather than the customer. Less than 10% of all software created is used and one of the reasons for this is that it is not made with a customer in mind, not user focused. This is an indicator problem. In academia and science, prestige is judged by good research, prizes or peer

³¹ Burton R Clark: Creating Entrepreneurial Universities, 1998

appreciation. This does not work in business, where the ultimate prize is customer recognition. In order to address this, many universities take a traditional approach importing programmes from business schools or instigating internships. Mr Bojar has taken a different approach and set up AIT in Budapest which has been running since 2010. The institute runs courses for one semester and focuses on the customer orientation of product development. Most of the students come from American universities.

In the question and answer session which followed, Mr Bojar explained why most of the students were from the US. First the course is expensive and second, the US undergraduates are expected to go abroad as part of their studies and there are not many options for software engineers. There are also Hungarian students and they do not pay. The graduates from AIT tend to go into firms such as Google, but many of the Americans chose to return to Hungary to work for software firms which is a positive knock on effect.

Professor Frank Gielen (BE), iMinds Ghent University, presented iMinds³², Flanders' digital research centre. iMinds is 10 years old, founded by Flemish Government. Professor Gielen reflected on the fast pace of change of software development. As shown by Mr Bojar, employers also had trouble putting students in front of customers. iMinds runs a programme which helps address some of the problems which blends business with technology. What is interesting is that although students are quite sceptical of this approach, by the end of the course they are more convinced. iMinds also set up an opportunity recognition workshop. During the three-day course takes researchers on a journey to help them look at their research from a business perspective, looking at its potential societal impact and the value it creates. The course is blended with online delivery as well as follow up with people in industry. Another approach used by iMinds is for graduates and called "lean start-up". A small group of students watch 5-10 videos and then have assignments based on customer confrontation, doing interviews with potential users. In the first four weeks of semester this presents a challenge, as students do not want to leave the building. Within 6 weeks, they are all doing their assignments. It is a flipped classroom approach which first gives them the tools, followed by real experience and coaching. This service is provided for all Flemish universities affiliated with iMinds.

Discussion

In the final question and answer session, Professor Tim Bedford was asked if Strathclyde University had used HEInnovate³³ as a tool for its development. Although this was not the case, Professor Bedford was familiar with the tool and considered it to be a useful way of looking at where you are in terms of development for future strategy. A question was raised about how to measure the entrepreneurial impact of the courses on the students. Professor Gielen from iMinds indicated that for their courses, the baseline was taken as no entrepreneurial skills and subsequent measurements were made against this.



In summary this session highlighted the different approaches which can be taken to delivering entrepreneurial skills through a university, a decentralised function (such as iMinds) and a specialised school. Each provides a different approach for their particular system needs and the evidence shows how each approach creates impact.

³² Further information: <https://www.iminds.be/en>

³³ Further information: <https://heinnovate.eu>

Promotion of Science and Higher Education – Collaborative Responsibility of Politics and Economy

Professor Birgitta Wolff (DE) from Otto-von Guericke University Magdeburg and a former Minister for Science and Economy of the Saxony-Anhalt federal state gave a keynote speech on the Promotion of Science and Higher Education – Collaborative Responsibility of Politics and Economy. Prof Wolff signified the importance of better higher education for all, as well as stating that in delivering a better system all stakeholders need to be involved. Germany has a complex system that goes across 16 constituent states. Thus, a long list of stakeholders need to be informed and strategically involved in the planning phase, including universities, polytechnic education and training providers, VET institutions, private education providers, early childhood and pre-tertiary education institutions, respective authorities within the federal states, employers, unions and similar actors. Each stakeholder has a vital role to play.



Illustrating the complexity of the higher education system, Prof Wolff reminded the three tracks of professional education in Germany, the academic, the dual and the practical.

The Three Tracks of Professional Education in Germany

	Academic Track	Dual Track	Practical Track
Basic	Bachelor (University)	Dual Study Programs (Firm & Berufsakademie or University)	Training of the Job, Apprenticeship (Firm & Berufsschule)
Higher	Master, Ph.D. (University)	Dual/part time Master Programs	Meister-Education
Lifelong Learning	Non-consecutive Master Programs, Executive Education at Universities	Part Time University Retraining	Professional Retraining, often Inhouse (large firms)

Source: Presentation of Prof Birgitta Wolff, keynote speech at University-Business Forum in Berlin, 2014

Academic education is not the best solution for every individual and career. The three tracks of professional education in Germany help in differentiating the offer to suit individuals' own priorities. This variety of education models is important, particularly in light of the steady increase in the rate of people going into tertiary education.

The German system has become more flexible specifically order to tackle the challenges of attracting non-traditional students, as well as adapting to new ways of studying. It is becoming more common for people to study at a later stage in their life, to gain experience before or during their studies, to reorient their career and to improve the practical application of their knowledge. Therefore, there is an increasing trend to find the best solutions in combining studies with more practical work, since university education has become a standard pathway for most people.

Professor Wolff reminded the participants that even though there are great benefits to growing higher education attainment, this has

implications for careers which are more suited to those taking the vocational education and training (VET) route. The key is to have many different types of educational offers, ones that support a more individualised approach to professional development. As the demands of the labour market intensify, and become more specific it is important to satisfy the preferences of all students and the labour market. The education and training system needs to support human potential in the wider sense, not just educational qualifications, but also transferable skills. The European programmes, such as those under Erasmus+³⁴ are good examples which contribute significantly to transversal skills and competence development.

The issue of who pays for education is contentious. Education in principle is seen as a public good and can ideally be funded from a variety of sources, offering a number of opportunities for the beneficiaries, not just academic, facilitating changes in careers, lifelong learning and in-company training. For this to happen a collaborative system needs to be set in place, allowing SMEs and other companies to work closely with universities, and deal with local demands locally. One practical solution could be the organisation of job fairs in a region with a regulated bonus system for economic promotion for small companies that collaborate with universities. It is also important to lower levels of bureaucracy to apply for vouchers and allow students to take initiatives to positively encourage relationships. Internships and dual programmes are very important actions in helping companies and higher education institutions to see the value of cooperation.

Challenges and Opportunities – Looking Ahead

Journalist **Mr Jan-Martin Wiarda (DE)** moderated a round table “Challenges and Opportunities – Looking Ahead”. It gathered the following high-level speakers:

- **Ms Elisabeth Gehrke (SE)**, Chairperson of the European Students’ Union
- **Professor Stefano Paleari (IT)**, Rector of the University of Bergamo and the President of the Conference of Italian University Rectors
- **Dr Matthias Gottwald (DE)**, Head of R&D Policy and Networking at Bayer Healthcare Pharmaceuticals
- **Mr Xavier Prats Monné (EC)**, Director-General Education and Culture, European Commission
- **Professor Micha Teuscher (DE)**, Rector of Neubrandenburg University of Applied Sciences and Vice-President of German Rectors’ Conference

Universities are confronted with many different issues to contend with: regional development, competing for talent, entrepreneurship, reduced funding, and at the same time everyone wants students to be successful on job market. How do universities address these issues, reform and yet still preserve elements of the Humboldt tradition?

Professor Micha Teuscher stressed the importance of collaborative efforts in order to address the challenges that universities and labour market face. As an example, the Professor presented the Neubrandenburg University of Applied Sciences— a small university of 260 employees, part of which have their salaries funded from a variety of external sources. The Neubrandenburg University of Applied Sciences offer includes a practical semester or provides practical work experience extending over a period of weeks. It works in close conjunction with businesses and institutions from within the region. The university is not only just focused on engineering but includes social sciences and other fields that help students really understand the key elements in start a company. Professor Teuscher addressed the question of culture and its role in changing the landscape of the universities. From his own experience universities that collaborate extensively with industry start to become an entity which is not just about academic training, but becomes part of an individuals’ long-term development, providing flexible access to training.

34 Further information on Erasmus+: http://ec.europa.eu/education/opportunities/index_en.htm



During the two days of the conference a number of issues and challenges have been raised, including the challenges of embedding lifelong learning in universities, the difficulties in supporting regional development and how to better stimulate entrepreneurship.

Professor Stefano Paleari shared his views on the role of universities in the system stressing that the university should be one of the actors not the actor. Significant changes in the global economic landscape mean that universities and companies cannot sit back and slowly react, but have to drive change. Cooperating can help to put universities and companies in a strong position and avoid creating even

wider gaps in the economy. Universities should play a role, but this role should be strategically planned. One of the learning points from the German example is the tradition of dividing the academic and non-academic track. If change is needed, flexibility is necessary.

This opened a discussion around the areas that should be prioritised and what are the issues that urgently need solutions. Dr Matthias Gottwald stated there is not just one solution or top priority, there are many. He drew on his experience in the health sector, where the collaboration within research is well developed and growing – helped by a culture of openness (in both directions), but not without an initial reluctance. With the trust and relations set up with companies, these collaborations can extend into education and training programmes. This is typified by the growing use of dual study programmes. If universities and companies learn from each other, content can be developed and reused in training programmes, graduate and post graduate studies. There is even scope for developing modules for industry.

Ms Elisabeth Gehrke expanded on Dr Gottwald's point on reluctance, by saying there is a lot of misunderstanding and myths around why collaborations work and don't work. Ms Gehrke argued that any large-scale change (teaching methods, content, internships) requires a dialogue between all stakeholders. There is no one-size-fits-all, to establishing and nurturing relationships.

Mr Prats Monné acknowledged the points of the speakers stressing how the need to understand society and the relations puts enormous demands on higher education. Mr Prats Monné reminded the auditorium of the need for a cultural shift in higher education and a continuous dialogue with others in order to understand the types of knowledge that society needs. It is not only about STEM subjects, but also about the humanities, which can bring in additional creative solutions for industry. The European Commission has already collected many examples of good practice, brought forth suggestions and advice and has set up a platform for dialogue on these issues.

Professor Teuscher and Dr Gottwald agreed with the need for a cultural shift and that there are no universal solutions. Focusing on short-term economic changes can create a negative impact on innovation which is why there should be different types of education institutions for different purposes. Although some elements of basic research may not need industrial collaboration, applied use and implementation, as well as education, all involve integrated partnerships. In the opinion of Dr Gottwald when looking at the delivery of lifelong learning, there is no other alternative but private-public partnerships. Although there is some competition between universities, overall there are many areas and fields which are non-competitive where collaboration and network creating can be concentrated.

The moderator Mr Wiarda recollected the discussion around financing education and the responsibility thereof. Mr Prats Monné highlighted the increasing competition, as universities lose their monopoly on educational offering and certification of knowledge, especially in the face of lifelong learning. Europeans do not believe in the future. Part of the issue is a disbelief in the transformative power of the education. The debate of public funding on education is therefore relevant as funding a better education system is directly investing in the trust in the future, concluded Xavier Prats Monné.

From the student perspective, Ms Gehrke reaffirmed there is distrust in education with regards to 'making dreams come true', even

though education is of great societal value. This builds a strong case for education to be free for all. Professor Paleari endorsed education as a public good and the involvement of students in the process needs to be taken seriously, ensuring there is flexibility and cooperation in delivering knowledge and entrepreneurial skills. The current fiscal systems do not help or allow much room for manoeuvre.

Professor Teuscher approached the topic of financing education from a more business-oriented perspective. Without disagreeing in principle with the notion of education for everyone, the reality is that delivery is costly. The argument for investment in early childhood education as a public good, leading to more productivity in the long run, is evidenced in many studies. However, if companies approach universities with a request for a lifelong learning programme or employees want to do a course, this can be perceived as a private sector demand and not necessarily a social benefit.

Mr Prats Monné contributed from the policy perspective by saying that most people like education to be freely available and students are not involved in the decision making for who funds it. There is a dangerous tendency for people to go to university to get a degree because they think they need one, rather than for a purpose. However due to lack of appropriate skills across European Member States, further conversations are needed to ensure quantity, quality and relevance of what people study. The impact of technology in education should be further recognised. The average age of a MOOC student is 11 years older than a university student. There should be more inclusion through using technological developments.

Dr Gottwald expanded on the idea of incentives. Referring to the earlier debate on who should pay for education, Dr Gottwald argued that these opportunities should be co-financed by the user. The challenge is building a reliable business model, as education and training have a lower priority in companies.

Discussion

A number of points were made during the discussion:

- Establishing joint partnerships and collaborations is a long game
- Higher education needs to be part of preparation for life, not just a job
- Students should not just seek out the “elite” institutions but look more seriously at the differentiated offers in light of their career ambitions
- Collaboration has implications for resources in universities and companies
- Each collaboration should involve a number of stakeholders from both sides in management and governance (students, manager, director, lecturers, researchers, company employees etc) . It should be based on strategy and common principles
- There will always be a discrepancy between what universities want and what businesses want. This does not mean that fruitful collaborations cannot happen
- If universities also collaborate in their collaborations with companies, it can lower the transactional costs and the burden on institutions. There are many companies that wish to work with several universities
- Multinational companies tend to want to set up well managed integrated approaches to mobility which can drive harmonised approaches to collaboration and build European networks
- European states need to reach a point where everyone can get the right amount of education for their needs. HEI is just one of the offers
- The quality of VET is not sufficiently appreciated in Europe. Academic degrees do not necessarily open up all opportunities
- The physical spaces of universities are often old and reflect an educational approach which has changed. This presents a paradox where students are using new technologies and still sitting through traditional lectures. Will this change?

Closing remarks

In his closing remarks, Mr Xavier Prats Monné stated there is a lot being done but a lot more to be done.

Picking up on some of the threads running through the Forum Mr Xavier Prats Monné introduced three tangible actions

1. Encouraging systemic collaboration: The European Knowledge Alliances were set up in response to a need set out at a conference such as this thematic UBForum and respond to the need to create more strategic partners.
2. Increase cooperation, in particular interdisciplinary. The European Commission multi-rank tool includes data from 800 universities and one a few have interdisciplinary research.
3. Increase the scope and reach of higher education in the broader sense. Ensure that equity and quality go hand in hand and that there are differentiated offers to suit a diverse set of citizens.

Mr Xavier Prats Monné thanked for the organisers and all the participants for their work and invited everyone to the University-Business Forum in Brussels in 5-6 March 2015.



DG Education and Culture (DG EAC)

European Credit Transfer and Accumulation System (ECTS)

European Real Life Learning Lab Alliances (EURL3A)

Gross Domestic Product (GDP)

Higher Education Institutions (HEI)

Higher Education Funding Council for England (HEFCE)

Intellectual Property (IP)

Lifelong Learning (LLL)

Local Enterprise Partnerships (LEPs)

Mathematics, information science, natural sciences and technology (MINT subjects)

Nearly-Zero Energy Buildings (NZEB)

Real Life Learning Labs (RLLL)

Research & Development (R&D)

Science, technology, engineering and math (STEM)

Social Sciences and Humanities (SSH)

University-business cooperation (UBC)

Vocational education and training (VET)

Thursday, 20 November 2014

09:30 Registration of the participants

Opening Session - University-Business Cooperation: Partnerships for Competitiveness, Employability and Prosperity

10:30 **Richard Kühnel**, Head of Representation of the European Commission in Germany
Working together for Social and Economic Impact

10:50 **Mr Ingo Kramer**, President, Confederation of German Employers' Associations
Skilled Workforce for Today and Tomorrow - Fostering Innovation and Competitiveness

11:10 **Professor Horst Hippler**, President, German Rectors' Conference
The Role of Higher Education in the Knowledge Triangle

11:30 **Panel Discussion:**
University-Business Cooperation: Making it Happen

Moderator: **Mr Jan-Martin Wiarda**, Journalist

- **Dr Gerhard F. Braun**, Vice-President, Confederation of German Employers' Associations and Member of the Advisory Board Karl Otto Braun Gruppe
- **Professor Wolfgang A. Herrmann**, President, Technical University Munich
- **Professor Maria Helena Nazaré**, President, European University Association
- **Professor Eva Quante-Brandt**, Vice-President, The Standing Conference of the Ministers for Education and Cultural Affairs of the German Länder, Senator of Education and Science in the State of Bremen
- **Mr Mário Tarouca**, Director of Public Affairs JADE European Confederation of Junior Enterprises

12:40 **Professor Johanna Wanka**, Federal Minister of Education and Research, Germany
From Idea to Innovation - The Benefits of Cooperation between Science and Industry"

13:00 Standing Lunch

14:30 – 18:00 Four Parallel STREAMS

Stream A Dual Study Programmes – Combining Academic and Professional Learning

In the last decade, more and more Member States have developed study programmes which look to better match graduates' competences with the challenges of professional life. Germany has a long tradition of vocational education and training that combine theory and practice. This approach has been applied progressively to academic disciplines. The dual study programme combines two places of learning: higher education institutions and the business/workplace. At the moment, dual study programmes are only implemented in a few Member States. However, they are gaining in popularity those countries and other Member States are now looking with interest at this model.

14:30 **Workshop A.1** - Spotlight on Bachelor Level Education

Moderator: **Dr Barbara Dorn**, Confederation of German Employers' Associations

- **Ms Filiz Albrecht**, MANN+HUMMEL GmbH
Dual Education Concept at MANN+HUMMEL
- **Dr Sabine Behrenbeck**, The German Council of Science and Humanities
Quality Assurance - Perspectives and Trends
- **Dr Vittorio Franzellin**, Free University of Bolzano
Pay-off Effects of Joint Efforts

16:00 Coffee break

16:30 **Workshop A.2** - Spotlight on Education beyond Undergraduate Studies

Moderator: **Prof. Helmut Hoyer**, FernUniversität in Hagen

- **Ms Friederike Leisener**, Baden-Wuerttemberg Cooperative State University
Expanding a Successful Approach
- **Ms Anne Steydli/ Ms Nathalie Hillenweck**, Strasbourg University
(Re-)Valorisation of Professional Learning
- **Ebrahim Mohamed**, Imperial College London
Climate-KIC perspective on the future of graduate education in Europe

Stream B Adapting Higher Education to Lifelong Learning

The European workforce today faces unprecedented challenges: increasingly competitive globalisation, demographic imbalances, economic uncertainty and the rise of new technologies. It is therefore vital that Europe encourages its citizens to develop new skills and to acquire new knowledge on a continuous basis. Higher education institutions have a key role to play in this process in preparing their graduates for a professional and social context in which Lifelong Learning will be crucial to their success and their contribution to the knowledge society. This requires an integrated approach and a willingness to change on the part of these institutions.

14:30 **Workshop B.1** - Embedding Lifelong Learning in Higher Education Institutions

Moderator: **Professor Alfredo Soeiro**, European University Continuing Education Network

- **Mr Christof Beutgen**, Deutsche Bahn AG
Qualification Planning – Practical Experiences
- **Dr Walburga Freitag**, German Centre for Research on Higher Education and Science Studies
Lifelong Learning as a Mission for Higher Education Institutions in Germany? Developments and Challenges
- **Professor Kirsti Miettinen**, Aalto University Executive Education Ltd, Aalto University
University Lifelong Learning - Strategies to Manage Change

16:00 Coffee Break

16:30 **Workshop B.2** The Need for Strategy and Commitment

Moderator: **Dr Sigrun Nickel**, Centre for Higher Education

- **Professor Salah Maouche**, Université de Lille 1
Learner-centered Approach to Lifelong Learning
- **Michael Mesterharm**, Volkswagen AG
Exchanging Know-how between Academia and Industry - the AutoUni
- **Professor Uwe Wilkesmann**, Dortmund University
Why is there so little Lifelong Learning at German universities?

Stream C The Impact of University-Business Cooperation

There are tangible and intangible effects, immediate and indirect returns on University-Business Cooperation which differ for students, academics and companies. Other parties - such as regional authorities - might expect primarily economic benefits, such as; an enhanced labour supply, increased levels of graduate employment, higher levels of new business start-ups or higher levels of innovation. Higher education institutions connect diverse stakeholders through different cooperation and innovation activities in their region. This makes them, key drivers of regional growth due to their role in knowledge creation and the development of human capital. It is, therefore, important to define relevant indicators for measuring impact and/or to use other methods like balanced scorecards.

14:30 **Workshop C.1** - Connecting Higher Education Institutions to Regional Development

Moderator: **Dr Isabel Rohner**, Confederation of German Employers' Associations

- **Kevin Richardson**, Higher Education Funding Council for England (HEFCE)
Higher Education Institutions in Smart Specialisation
- **Ms Elianne Demollins-Schneiders**, University Heerlen
Knowledge Alliance EURL3A and its Regional Outreach
- **Dr Rolf Strittmatter**, Zukunftsagentur Brandenburg
The Comprehensive Top-Down Approach of the Life Sciences Cluster

16:00 Coffee break

16:30 **Workshop C.2** - Capturing and Demonstrating the Benefits of University-Business Cooperation

Moderator: **Dr Adrian Healy**, Cardiff University

- **Dr. Cristobal Gonzalez**, University of Valencia
Responding to the Regional Business and Society Needs
- **Dr Pascal Hetze**, Stifterverband für die Deutsche Wissenschaft
Economic Analysis of Higher Education Institutions' Impact
- **Mr Markus Lecke**, Deutsche Telekom AG
Telecom's HEI Cooperation Strategy and its Value to the Company

Stream D Higher Education and Entrepreneurship

Entrepreneurship has a potential impact at a number of levels: individual, institutional, economic and, more broadly, social. "Entrepreneurship and a sense of initiative" is one of eight competences for Lifelong Learning which citizens require for their personal fulfilment, social inclusion, active citizenship and employability in the knowledge-based economy. Higher education is the ideal environment in

which to develop and foster entrepreneurial qualities and skills and to help develop potential entrepreneurs and enterprising individuals bring about significant changes. However, higher education institutions themselves must reconsider their role, governance and course offer in order to cope with recent changes, challenges and opportunities.

14:30 **Workshop D.1** - Stimulating Entrepreneurship in, and through, Higher Education

Moderator: **Mr Christian Tauch**, German Rectors' Conference

- **Professor Margareta Norell Bergendahl**, Royal Institute of Technology Stockholm
Developing Entrepreneurial Skills by Engaging with Societal Challenges (Open-Lab)
- **Mr Lucas León**, akvolution GmbH
Higher Education; Supporting the Entrepreneurial Venture
- **Professor Christine Volkmann**, University of Wuppertal
Supporting the Entrepreneurial Potential of Higher Education

16:00 Coffee break

16:30 **Workshop D.2** - Developing an Entrepreneurship-friendly Ecosystem for Higher Education

Moderator: **Mr Henning Dettleff**, Foundation for International Business Administration Accreditation

- **Professor Tim Bedford**, Strathclyde University, Entrepreneurial University of the year 2013
Building an Entrepreneurial Ecosystem around a University: Strathclyde's Journey
- **Mr Gabor Bojar**, Graphisoft SE and AIT Aquincum Institute of Technology
Entrepreneurship for non-entrepreneurs
- **Professor Frank Gielen**, iMinds Ghent University
Supporting Higher Education Institutions and Students in their Entrepreneurial Journey

18:00 Get Together

Friday, 21 November 2014

Conclusion of the Workshops - Facets and Core Features of University-Business Cooperation

9:00 **Workshop debriefing**

Moderator: **Mr Jan-Martin Wiarda**, Journalist

Rapporteurs:

- Workshops A.1 and A.2 **Dr Irene Seling**, Confederation of German Employers' Associations
- Workshops B.1 and B.2 **Dr Peter Zervakis**, German Rectors' Conference
- Workshops C.1 and C.2 **Mr Stefan Zotti**, Austrian Agency for International Mobility and Cooperation in Education, Science and Research
- Workshops D.1 and D.2 **Dr Keith Herrmann**, Director of Employability at the University of Surrey

Keynote Speech

- 10:00 **Professor Birgitta Wolff**, Otto-von Guericke University Magdeburg and former Minister for Science and Economy of the Land Saxony-Anhalt
Promotion of Science and Higher Education - Collaborative Responsibility of Politics and Economy
- 10:30 Coffee Break

Closing Session

- 11:00 Round Table: Challenges and Opportunities – Looking ahead

Moderator: **Mr Jan-Martin Wiarda**, Journalist

Panel Discussion:

- **Elisabeth Gehrke**, Chairperson of the European Students' Union
- **Professor Stefano Paleari**, Rector, University of Bergamo; President; Conference of Italian University Rectors
- **Dr Matthias Gottwald**, Head of R&D Policy and Networking at Bayer Healthcare Pharmaceuticals
- **Mr Xavier Prats Monné**, Director-General Education and Culture, European Commission
- **Professor Micha Teuscher, Rector**, Neubrandenburg University of Applied Sciences; Vice-President, German Rectors' Conference

- 12:30 **Standing Lunch**
Opportunity for interviews

- 14:00 **Optional for participants from Higher Education Institutions:**
HEInnovate – Framework for Entrepreneurial Higher Education Institutions
- This hands-on session addresses higher education institutions interested in self-assessing their performance as entrepreneurial institutions across a range of key areas such as; governance, internationalisation and pathways for entrepreneurs, to mention a few. It will provide guidance and inspiration for those institutions wishing to improve their performance or get new ideas. Materials, case studies and action plans will be available. The online tool is open to the public at <http://heinnovate.eu>.

- 17:00 End

Ms Filiz Albrecht

is Group Vice President of Human Resources at MANN+ HUMMEL in Ludwigsburg. She is working for MANN+ HUMMEL since 2011 and is also a member of the Extended Board. She studied Business Law at the Westfaelischen Hochschule Gelsenkirchen and Business Administration (MBA) at the Pfeiffer University in Charlotte, North Carolina, USA. From 1999 until 2003 she was Head of Legal and Human Resources at Happich Fahrzeug und Industrieteile GMBH and from 2003 until 2006 she was Vice President of the Human Resources and Legal department at the GHE Group. From 2007 until 2011 she was Head of Legal & Human Resources at the WKW Erbsloeh AG.

Professor Tim Bedford

is Associate Deputy Principal for Knowledge Exchange at the University of Strathclyde, and is Professor of Risk and Decision Analysis at Strathclyde Business School. He is a Fellow of the Royal Society of Edinburgh and has an honorary degree from the University of Mons for his work in Risk Analysis. Tim was awarded a PhD in Mathematics from Warwick University, was a Fellow of Kings College Cambridge, and worked at Harvard and Delft University. At Strathclyde he has led a number of initiatives to stimulate both University-Business collaboration and entrepreneurial activity, which contributed to the University winning the UK Entrepreneurial University of the Year award in 2013. Tim is also active in the wider Scottish Higher Education community as a member of the Scottish Funding Council Research and Knowledge Exchange Committee.

Dr Sabine Behrenbeck

is head of the department Higher Education of the Wissenschaftsrat – German Council of Science and Humanities. Her main issues are p.e. Academic Career Tracks, Scientific Integrity, Autonomy and Governance in Higher Education Institutions and Programmreport of the German Excellence Initiative. She studied History at the universities in Bonn and Rom. She received her PhD at the university of Cologne in 1993. German Council of Science and Humanities.

Professor Margareta Norell Bergendahl

is professor in Integrated Product Development and Vice President of KTH Royal Institute of Technology, Stockholm. Her research team covers work procedures, tools and organizing for efficient and innovative industrial product development, all of which performed in close collaboration with national and international colleagues and industrial partners. During her career she has held positions as product development manager, teacher and researcher/advisor in several environments. She has a strong network in academia and industry on operational and top management level, she is active in boards and advisory groups for companies, funding bodies and for the Swedish Government. She is a member of IVA Royal Swedish Academy of Engineering Sciences since 1999, and member of the IVA Board from 2012.

Mr Christof Beutgen

is the Head of Employee Development Policies at Deutsche Bahn AG/DB Group. DB Group provides mobility and logistic services worldwide and operates in over 130 countries. With more than 196.000 employees in Germany the DB Group is one of the biggest nationwide employers. After his vocational training as tax accountant assistant Christof graduated in psychology with major in work and organizational psychology. He started his career at DB AG in the graduate programme. After working in different positions in the area of long distance trains, he took over the HR Department for the region East at DB Vertrieb (Sales). In 2010 he became Head of the department "Employee Development Policies" in the Holding.

Mr Gábor Bojár

earned a degree in physics at the Eötvös Loránd University in 1973. He was distinguished by numerous national and international awards such as the Széchenyi prize, the Order of Merit of the Hungarian Republic, the Ernst and Young Entrepreneur of the Year Award in Hungary, and he was invited speaker several times at the Davos World Economic Forum. In 1982, Gábor Bojár founded the architectural

software company Graphisoft in Hungary, well before the fall of the Iron Curtain. Today Graphisoft is the worldwide market leader in the field of 3D building modeling. Graphisoft Park SE a real-estate enterprise, spin-off of the software firm, re-cultivated an industrial site on the bank of the river Danube and turned it into a state-of-the art science park, which now hosts Microsoft, SAP, Servier and many other high-tech companies. In 2007, Gábor established a school of information technology and entrepreneurship for an international student body. The Aquincum Institute of Technology (AIT-Budapest) is an example of social entrepreneurship demonstrating the viability of a self-sustaining investment in higher education. Currently, Gábor Bojár is the Chairman of Graphisoft SE; and Graphisoft Park SE as well as of the Aquincum Institute of Technology. Since 2012, Gábor Bojár is member of the Governing Board of the EIT European Institute of Innovation and Technology.

Dr Gerhard F. Braun

graduated in Business Management in 1981 from the University Saarbrücken, Germany, and earned his conferral of a doctorate in 1985. He began his career at Raschig AG, Ludwigshafen, Germany, where he worked as Assistant to the Executive Board. In 1988 he joined the Karl Otto Braun KG (KOB) in Wolfstein, Germany, as Managing Partner. From 1990 to 2013 he was CEO of the KOB Group. Since 2002 he is President of the Regional Industry federation in Rhineland-Palatinate (LVU), since 2007 Vice President of the Confederation of German Employers' Associations (BDA) as well as Chairman of the BDA/BDI Committee Education | Vocational Training and since 2014 Chairman of the Board of Trustees of the Foundation of German Business (sdw) and the BDA/BDI/HRK Committee University/Business.

Ms Elianne Demollin-Schneiders

After her studies of Environmental Aspects of Agriculture and of Civil Engineering, she earned Master degrees in Dutch Law, and International and European Law. In this context, her research projects focused on European renewable energy and on legal safeguards of the Directive 2009/28 EC to attain 20% renewable energy by 2020 in Europe. After having worked at different consultancy companies, she worked at the Heerlen Municipality for 18 years as specialist for soil contamination and further on for sustainable building and renewable energy. During that time, Elianne developed and realized, among other projects, the Minewater Project under the Interreg 3B NWE programme aimed to demonstrate how the geothermal energy stored by mine water can be used as a safe and ecological way to heat buildings. One of the main activities of the last years has been the realization of an innovation infrastructure for integration of renewable energy in the build environment. She is the architect of the knowledge infrastructure called BIHTS Building Integrated High-tech Systems of the Limburg province. Currently, Elianne is manager of the Centre of Expertise NEBER New Energy, Build Environment and Renewables connecting partners from governments, knowledge institutions and companies. In this position, Elianne is coordinator of the Knowledge Alliance project EURL3A European Real Life Learning Lab Alliance with university and business partners from Slovenia, the Czech Republic and the Netherlands.

Mr Henning Dettleff

(born 1978) studied Business Administration, Dutch Studies and Dutch Philology in Oldenburg (Germany), Groningen (Netherlands) and Växjö (Sweden). He graduated in Business Administration both from the University of Oldenburg and Växjö. He started his career in 2004 as Personal Assistant to the President of the University of Oldenburg. From 2008 until 2013 he was responsible for higher education policy at the BDA | Confederation of German Employers in Berlin. During that time, he also represented BUSINESSEUROPE in various European committees, including the Bologna Follow-Up Group, the European Quality Assurance Register's General Assembly as well as in Advisory Boards of several EU-funded projects in the field of higher education. Since 2013, Henning works for the Swiss-German quality assurance agency FIBAA | Foundation for International Business Administration Accreditation, currently as its Deputy Managing Director. He is also member of the Steering Committee of the Flemish agency VLUHR Quality Assurance.

Dr Barbara Dorn

is Director Education/Vocational Training of the Confederation of German Employers' Associations (BDA). Her key activities are the coordination of position making processes in the field of education and vocational training, the development of strategic position papers and the representation of the employers' view at national, european and international level. Barbara coordinates cooperation processes with all relevant national and european institutions in the field of education and vocational training and participates actively in their working groups and committees. Main tasks are the supervision of BDA committees for education and vocational training and the counselling of employers' associations in these policy fields. Barbara is president of the CEDEFOP Governing Board and member of the BUSINESSEUROPE working group education and training.

Dr Vittorio Franzellin

received a M.Sc. in Mechanical and Management Engineering from the University in Parma (Italy). He worked as management consultant for private and public companies in Italy, Austria, Switzerland and Germany collecting over 12 years international experience in consulting, training and interim management across the main industrial sectors p.e. like building and construction industry, aviation/consumer goods/automotive/machinery, whole sales/retail, renewable energy, public/health care, and Tourism. Since 2003 he collaborates with the Free University of Bolzano as project manager for innovative dual educational programs in collaboration with the Polytechnic University of Turin, the national Ministry for Labor and the Social Policies, the European Social Fund and the South Tyrolean Entrepreneurs Association. Since 2009 he is Lecturer at the Faculty of Science and Technology of the Free University of Bolzano.

Dr Walburga Katharina Freitag

is the Head of Research Department Lifelong Learning at the German Centre for Research on Higher Education and Science Studies in Hannover (Germany). Her most important current Projects are the evaluation of the German Federal and State Governments Competence "Advancement through Education, Open Universities", the Federal Government Initiative "ANKOM-Transition from Technical and Vocational Education & Training (TVET) to Higher Education" and it is accompanying scientific support and research. Her main topics are widening access to Higher Education, gatekeeping and selection, Lifelong learning in Higher Education; European educational policies.

Ms Elisabeth Gehrke

is Chairperson of the European Students' Union. Elisabeth is originally from Sweden where she studied Gender Studies at Lund University. She has held both local and national mandates, including being vice-chair of the Lund university student union association and the National Unions of students in Sweden. She has been on all levels of governance at Lund university, including being an integrated member of the University leadership during her local mandate and a member of the Lund university board for two years. On behalf of ESU she cochairs the BFUG working group on Social Dimension and Life-long learning. ESU is the umbrella organisation of 47 National Unions of Students (NUS) from 39 countries. The aim of ESU is to represent and promote the interests of students at the European level towards all relevant bodies. Through its members, ESU represents over 15 million students in Europe.

Professor Frank Gielen

has extensive experience with R&D in the telecommunication and software technology sector as well as in raising venture capital, university-industry collaborative research and spin-off creation. He held a number of technical and management positions in the software industry. He started as a software architect with AT&T Bell Labs in the USA and was director of software technology at Alcatel. In 1998 he joined Tellium, a US based start up company in optical network technology, as the VP of Software Engineering. Tellium had a successful IPO on NASDAQ in 2001. He returned to Europe in 2001 as the CEO for Tellium EMEA. Today he is professor of software technology entrepreneurship at the University of Ghent. Since 2010 he is the Director of the Incubation & Entrepreneurship at iMinds, the leading digital incubator and business accelerator in Flanders. The iStart incubation program of iMinds is recognised as one of the 25

best University Business Incubators worldwide and is ranked 7th in Europe (UBI index). iMinds supports the higher education institutes in Flanders with a dedicated student entrepreneurship program.

Dr Cristóbal González

is a lecturer in the Department of Financial Mathematics and Actuaries at the University of Valencia since 1992. He holds a M.Sc. in Financial Mathematics (University of Edinburgh and Heriot-Watt University) and PhD in Economics from the University of Valencia (with honors). He teaches Financial Mathematics, Fixed Income Analysis, Financial Derivatives and Securitization at both undergraduate and postgraduate levels. He has also carried out tasks as Erasmus coordinator of both the International Business Degree and the Business Administration degree at the Faculty of Economics of the University of Valencia. His research interests lie in the area of financial mathematics and include, among others, mortgage securitization, MBS valuation and interest rate risk in banking. He has participated in many academic conferences in the area of finance and he has several papers published in national and international journals. In his spare time he enjoys practicing sport, specially playing tennis and paddle (a really fun sport not very well known outside Spain), reading a good non-academic novel, and going out to the theater and cinema with friends.

Dr Matthias Gottwald

is Head of R&D Policy and Networking at Bayer Healthcare Pharmaceuticals since 2007, being responsible for the interaction with the political environment on R&D related issues, consortia management and publicly funded activities. He received a PhD in microbiology at Georg-August University in Goettingen. His professional career started in 1986 as head of a microbiology lab in preclinical research at Schering AG, followed by several management positions in R&D at Schering AG and Bayer Healthcare including Global Information Services. In the context of the takeover of Schering AG by Bayer he supported the integration of R&D as project leader. Since 2007 he was actively involved in the planning and implementation of the Innovative Medicines Initiative IMI and supports the initiative since then as chair of the IMI Industry Liaison Group of the EFPIA. He is also member of the Executive Board of the IMI Education & Training projects PharmaTrain and EUPATI.

Dr Adrian Healy

Based in the School of Planning and Geography at Cardiff University, Adrian's expertise focuses on innovation and regional economic development, combining knowledge of innovation, education and research initiatives. In this capacity he has worked with local, regional and national authorities in the UK as well as with several of the European Commission Directorate Generals and other Member States. His experience includes working as an advisor on regional innovation to DG Research advisory groups and as an expert advisor to the ODPM House of Commons Select Committee Inquiry into Regional Disparities in Prosperity in the UK. He was also a member of the UK Government's expert panel on Neighbourhoods, Cities and Regions Analysis. Adrian has long experience of working with DG EAC, most recently leading an assessment of approaches for measuring the outcomes of university-business cooperation in the field of education. He contributed to an evaluation of the Marie Curie Actions, and led the evaluation of the European Institute of Innovation and Technology (EIT) for DG EAC, plus a subsequent study on co-location centres. His work spans the academic and policy boundaries, combining rigorous policy review with theoretical insights. He is currently leading two major European studies: one on regional economic resilience funded by the ESPON programme and the other on the theme of regional innovation and smart specialization, financed by FP7.

Dr Keith Herrmann

is Director of Employability at the University of Surrey which is ranked 6th in the UK on the 2015 Guardian University League Table. At Surrey he is responsible for leading on employability, careers and the university's renowned student placement programme. Prior to joining Surrey he was Director at Higher Ed Research, an independent research consultancy specialising in higher education. Keith was previously Deputy Chief Executive at the Council for Industry and Higher Education (CIHE) where he was involved in research on

entrepreneurship education, leadership in higher education, innovation policy, university-business collaboration, employability, career guidance and STEM education. Keith worked previously at Durham University Business School as Director of Programmes for Small Enterprise Development where he specialised in entrepreneurship education, economic policy research, management development, leadership and knowledge transfer programmes with business. He has also worked internationally on the impact of regulation and government policy on business. Keith is passionate about education, and pro bono convenes the Careers Alliance, a strategic leadership network of 25 national organisations with an interest in career guidance, including employer bodies, trade unions and education and skills organisations.

Professor Wolfgang A. Herrmann

studied chemistry at TUM. After obtaining his doctorate and postdoctoral teaching qualification at the University of Regensburg and following professorships in Regensburg and Frankfurt, he took over the TUM Chair of Inorganic Chemistry from Professor Ernst Otto Fischer in 1985. His awards include the Leibniz Prize (1987) and the Max Planck Research Prize (1991). He is one of the most highly cited German chemists (ISI) with ca. 750 scientific publications and around 80 patents. Since 1995, Wolfgang A. Herrmann has been President of Technische Universität München (TUM). He has been a leading light in the development of TUM's forward-thinking entrepreneurial university strategy. His efforts paid off in 2006 and 2012, when TUM was one of a small number of universities singled out under the German Excellence Initiative. Several of TUM's reforms have had a trend-setting effect in the German higher education space. The TUM President has received twelve honorary doctorates from German and international universities. His many awards include the Bavarian Order of Merit in 2007, the Bavarian Maximilian Order for Science and Art in 2012, the titles "University Manager of the Year" (Center for Higher Education/Financial Times Deutschland, 2009), and "President of the Year" (German Association of University Professors and Lecturers, 2012).

Dr Pascal Hetze

is head of programmes for innovation policy at Stifterverband für die deutsche Wissenschaft. The Stifterverband is a business community initiative advocating long-term improvement of the German education and research landscape. Pascal Hetze graduated in economics and politics at the University of Munich and received his doctorate in economics from the University of Rostock. Between 1999 and 2007 he held the position as a researcher at the University and the Max Planck Institute in Rostock. His research areas were innovation theory and applied research concerning the challenges of demographic change. From 2007 to 2009 he worked as an adviser and speechwriter in the policy principles division of the office of the German Federal President (Bundespräsidialamt). In 2009 Pascal Hetze joined the Stifterverband. He was responsible for the coordination of different activities on health and innovation policy for the secretariat of the advisory board to the federal government, the Forschungsunion. Currently he is concerned with the role of the higher education system for innovation and regional development in different projects. Main issues here are the economic impact of universities and the effects of cooperation between the business sector and academic institutions.

Ms Nathalie Hillenweck

is senior lecturer of German language at the Department of Applied Languages of the Université de Strasbourg (France). She chaired the Faculty of Applied Languages and Human Sciences from 2003 to 2013. As head of faculty she was actively involved in the creation and promotion of careers-oriented studies. Currently, she is deputy Vice-President of the university, in charge of the professionalization of studies and students. Her current responsibility within the university policy covers the field of external relations and the integration of students into the workplace. These activities are particularly aimed at the development and validation of internships, alternate periods of training on the job, academic study and entrepreneurship experience, with special attention to students, graduates and post-graduates in the field of humanities.

Professor Horst Hippler

is President of the German Rectors' Conference (Hochschulrektorenkonferenz – HRK) since May 2012. The HRK is the umbrella organisation of German universities and universities of applied sciences. Born in 1946, Horst Hippler studied physics at the University of Goettingen. He received his doctorate from the École Polytechnique Federale de Lausanne in Switzerland. He did post-doctoral studies at the IBM Research Laboratory in San Jose, USA, and at the University of Goettingen. In 1993, Horst Hippler became a professor of physical chemistry at what was then the University of Karlsruhe and is now the Karlsruhe Institute of Technology (KIT). From 2002 to 2012 he served first as Rector of the University of Karlsruhe and later as President of KIT. In addition, from 2006 to 2009 he served as president of TU9, the association of nine leading technical universities in Germany. From 2010 to 2012, he was President of the Rectors' Conference of the Universities of the State of Baden-Württemberg. Horst Hippler is a member of various advisory boards and boards of governors of German as well as French universities. He is a member of the Conseil Scientifique d'Electricité des France (EDF). In 2009, he was elected as a member of acatech, the German Academy of Science and Engineering, and in 2011 became a corresponding member of the Goettingen Academy of Sciences.

Professor Helmut Hoyer

born in 1950, Rector of the FernUniversität in Hagen since 1997. He studied Electrical Engineering at the University of Karlsruhe and acquired his doctorate in engineering at FernUniversität in 1984. After a 3 years research period at the Institute of Robotics Research of the University of Dortmund, where he headed the group 'Robot Control and Multi-Robots Systems', he returned to FernUniversität as a Full Professor and Head of the Chair of Control Systems Engineering. His research activities focus on robotics and assistive technologies for elderly people and people with disabilities. He fulfilled university managing roles as Dean of the Faculty of Computer and Electrical Engineering of FernUniversität and as Vice Rector for Planning and Finance. Between 1999 and 2006 he was Vice President and from 2006 to 2009 Acting President of the International Council for Open and Distance Education (ICDE) and between 2001 and 2002 he was Chairman of the Rectors' Conference of North Rhine-Westphalia. 2002 he became a Member of the Board of Trustees of the Fraunhofer Institute for Environmental, Safety and Energy Technology and 2004 – 2006 he was Academic Director of Centre for eCompetence at Universities in NRW (CeC). From 2007 to 2011 he was a Member of the University Council Otto-Friedrich-University of Bamberg. He was awarded the Bundesverdienstkreuz by the President of the Federal Republic of Germany in 2005.

Mr Richard Kühnel

Before joining the European Commission, Richard Kühnel worked in the national diplomatic service of Austria in 1994. He served at the Austrian Embassy in Tokyo, in charge of economic and financial relations. Between 2000 and 2003, Richard Kühnel was Counselor at the Permanent Mission of Austria to the United Nations in New York. In 2003, he returned to Vienna, first as Advisor to the Director-General for Development Cooperation and then as Member of Cabinet of the Foreign Minister. In 2004, Richard Kühnel joined the European Commission as Member of Cabinet of the EU Commissioner for External Relations and European Neighbourhood Policy, Benita Ferrero-Waldner. He was responsible for multilateral relations and human rights. Between 2008 and May 2014, he has been Head of Representation of the European Commission in Austria. Since June, he is Head of Representation of the European Commission in Germany. Richard Kühnel is a lawyer by training, with an emphasis on international and European law.

Mr Ingo Kramer

is President of the Confederation of German Employers' Associations (Bundesvereinigung der Deutschen Arbeitgeberverbände – BDA) since 2013. BDA is the leading organization dealing with social policy on behalf of the entire German private sector. It represents the interests of small, medium-sized and large companies in all sectors and all issues linked to social policy and collective negotiations, labour legislation, labour market policy and education. Born in 1953, Ingo Kramer studied Industrial Engineering at the Technical University Karlsruhe. Since 1982 he is Managing Director and since 1986 Managing Shareholder of the J. Heinr. Kramer Group,

Bremerhaven. Since 2002 Ingo Kramer is President of the Coalition of Employer Associations in the Land of Bremen and served between 2007 and 2013 as President of the Employer Association Nordmetall. Since 2001 he is Member of the Board of Governors in the Jacobs University Bremen and since 2010 Chairman of the Executive Board of the Foundation of German Business (sdw).

Mr Markus Lecke

is a telecommunication engineer and studied at the University of applied Science in Lemgo, North Rhine Westphalia. He started his career as an expert for vocational training concepts within the Deutsche Telekom AG in 1995. In 1999 he was responsible for a team of education consultants. From 2002 to 2005 he became head of DT's vocational training organization three German states. Since 2005 he is working in DT headquarters department for Human Resources Development in Bonn, in 2009 he became head of the education policies for the group. Since January 2013 he has the role as program manager for individual development. In this function he is responsible for education policies and academic training offers, e.g. "Bologna@Telekom", a corporate program for part time study courses with 700 students. Markus participates in educational-political committees and boards on national and European level.

Ms Friederike Leisener

leads the department of quality management at the DHBW – Baden Württemberg State University in Stuttgart, Germany. Friederike has studied philosophy, sociology and communication science (M.A.) at the Friedrich-Schiller-University in Jena and also holds a degree in science management (MBA) from the Carl von Ossietzky University of Oldenburg. Friederike has worked for non-governmental organizations in New-Delhi India in the field of network building and knowledge transfer, developed e-learning content for various publishing houses and agencies in Berlin and Cologne and introduced E-Learning at the DHBW location in Heidenheim. Since 2009 Friederike is quality manager at the DHBW headquarters in Stuttgart, her area of responsibility includes accreditation issues, evaluation and action planning and organizational development.

Mr Lucas Léon

After his studies of telecommunications engineering at the Universitat Politècnica de Catalunya Barcelona and his Master thesis at KTH Stockholm. Lucas began his career at Aguas de Arguineguín SL, a water company and family business with over 30 years of experience in drinking water supply and wastewater treatment. He participated in the operative aspects of a business in the water industry. Since his arrival in Berlin in 2012, he has also been involved in several start-ups in charge of Product Management and streamlining Marketing & Sales processes. In his current position, Lucas is the chief business development officer at akvolution GmbH, Berlin.

Professor Salah Maouche

graduated in Electrical Engineering at the National Polytechnic School of Algiers (Ecole Nationale Polytechnique d'Alger) in 1978. After obtaining his PhD in 1980 at the University of Lille he received his habilitation as Doctor in Physics in 1995 at the same university. Since 1996 Dr Maouche is professor in Automatic Control at the University of Lille. Professor Maouche is the author and co-author of a large number of publications; he was supervising 26 PhD theses and participating in 50 doctoral thesis defence committees. Professor Maouche played an active role in the creation and development of research groups, doctoral degrees and of a laboratory. He also initiated a number of research contracts with industry and public institutions. From 2002 to 2007 he was Dean of the faculty of Computer Science, Electronics, Electrotechnics and Automatic Control. In 2007, he was elected as Vice-Rector in charge of Academic Affairs and the Governing Board.

Dr. rer. pol. Michael Mesterharm

studierte Betriebswirtschaftslehre an der Universität Oldenburg und promovierte zum Thema »Integrierte Umweltkommunikation« bei der AUDI AG in Ingolstadt. Seit 2000 ist er für die Volkswagen Aktiengesellschaft tätig. Zunächst war er Referent in der Konzernforschung im Bereich Umweltstrategie des Unternehmens. 2006 wechselte er zur AutoUni des Volkswagen Konzerns. Dort baute

er die Forschungsaktivitäten der AutoUni auf und ist aktuell für Hochschulk Kooperationen zuständig. Seit 2009 ist Herr Mesterharm zugleich an der Universität Oldenburg im Fachgebiet Produktion und Umwelt tätig und befasst sich dort mit Themen des Supply Chain Managements.

Professor Kirsti Miettinen

M.Sc. is the former director of Aalto PRO – Aalto University Professional Development. She is also the president of UCEF - University Continuing Education Network in Finland. She graduated from Helsinki University of Technology in 1984. Her former tasks have varied from research engineer to management development and from managing extensive international and EU-level development projects to running company internal and customer training units. Her previous employers include Imatran Voima (present Fortum), ABB, NOKIA, Sonera and the Federation of Finnish Technology Industries. During the years 1997-2005 she was the chairman of the Educational Committee in the Finnish Association of Graduate Engineers TEK, continuing to be member. She is also a council member of IACEE and chairwoman of SEFI WG for CEE. Kirsti has been implementing lifelong learning by developing, leading and facilitating several training programmes at professional, management and executive level in Finland and abroad.

Mr Ebrahim Mohamed

is a specialist educator in the field of entrepreneurship education and helps spearhead Climate-KIC's reputation in technology entrepreneurship and innovation in Europe. He is a principal teaching fellow and faculty member at Climate-KIC partner Imperial College London's Finance & Accounting department and Imperial Entrepreneurship Hub. He is a graduate of the London School of Economics. Ebrahim does teaching, research and consulting in the area of accounting, finance, innovation, entrepreneurship and education. He has been at Imperial College since 1992 and has worked on a number of graduate programmes and led significant innovation initiatives in education. He has held visiting lectureships for several universities and business schools. He is an accredited examiner of the University of London external programme and a fellow of the Higher Education Academy (HEA).

Professor Maria Helena Nazaré

trained as a physicist, graduated from the University of Lisbon, and obtained her PhD from King's College London. She was twice head of the Department of Physics, Vice-President of the Scientific Council and Vice- Rector of the University of Aveiro. She was Rector of the University of Aveiro, Chair of the Portuguese Rectors' Conference Committee for research and knowledge transfer, and a member of the Research Policy Working Group of the European University Association. She was appointed Vice-President of EUA and elected as President, starting her term of office in March 2012. Currently she is a member of the Portuguese National Education Council and Chair of its Higher Education Commission, Member of the Administration Board of Portugal Telecom, President of the Advisory Board of Fundação Galp Energia and President of the Portuguese Physics Society.

Dr Sigrun Nickel

works as higher researcher at the German Centre for Higher Education (CHE). Her main fields of expertise are connections between higher education and vocational training, career development of academic and administrative staff, quality management in higher education institutions. Furthermore she is co-responsible for the CHE further training programme „Hochschulkurs – Fortbildung für das Wissenschaftsmanagement“ (university course – further training for science management) and works as a lecturer in the study programme for management of higher education institutions at the University of Applied Sciences in Osnabrück. Sigrun holds a Master of German Studies, Sociology and Pedagogy from the University of Münster, Germany and a doctorate in Social Sciences from the University of Klagenfurt, Austria. Professional experience in the field of higher education development, politics and research as head of department for communication and strategic higher education development at Hamburg School of Economics and Politics, co-leader of the ProUni university development project at the University of Hamburg, team assistant for the Senator for Science in Hamburg,

research fellow in the department for higher education research at the Interdisciplinary Faculty for Research and Further Training in Vienna, Austria.

Professor Stefano Paleari

was born in Milano on 24 January 1965. He graduated in Nuclear Engineering at the Polytechnic School of Milan. He worked as Assistant Professor of Managerial Engineering at the University of Bergamo and later as Associate Professor of Industrial Organization at the Polytechnic School of Milan. Since February 2001, he holds the full professorship of Finance at the Faculty of Engineering of the University of Bergamo. He is Scientific Director of the ICCSAI (International Center for Competitiveness Studies in the Aviation Industry) and external examiner in the M.Sc. in Air Transport Management at the Department of Air Transport of the Cranfield University (UK). Furthermore, he is Airnet Academic Fellow and member of the Airnet Scientific Board, an international group of the most representative academic researchers in Air Transportation. In October 2009, Stefano Paleari became Rector of the University of Bergamo. In this position, he was Secretary General of the CRUI (the Italian Council of the Rectors of Italian Universities) from 2011 to 2013. Subsequently in 2013, he has been elected President of the CRUI. Currently, he is board member of the EUA (European University Association).

Mr Xavier Prats Monné

is the Director-General for Education and Culture of the European Commission. Since 2011 as Deputy Director-General, he has been responsible for EU policies in the field of education and training, and for the EU education programmes for 2014-2020 period, including Erasmus+ and Marie Skłodowska Curie. Since August 2014, as Director-General, he is also responsible for EU policies in the field of culture, youth and sport, and for the Creative Europe programme. He represents the European Commission on the Governing Board of the European Institute of Innovation and Technology (EIT). From 2007 to 2010 he served as Director for employment policy, and as one of the five founding members of the EU Impact Assessment Board, reporting to the President of the European Commission.

He completed his primary and secondary education at the Istituto Massimo of Rome, Italy. He holds degrees in Sociology from the Universidad Complutense (Madrid, Spain); in Development Cooperation from the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM; Paris, France); and in European Studies from the College of Europe (Bruges, Belgium), where he graduated first of the Class of 1981-82 and served as assistant professor. He is from Spain, fluent in Spanish, English, French, Italian and Catalan..

Professor Eva Quante-Brandt

Senator for Education and Science of the Free Hanseatic City of Bremen since 2012, holds a first state examination degree in pedagogy, German philology and sports from Hamburg University and a second state examination degree from Bremen University. She worked as professor at the universities of Bremen and Darmstadt and from 2011 to 2012 as Director of the Academy for Labour and Politics. In 2011 and 2012 she was also the authorised representative of the Free Hanseatic City of Bremen vis-à-vis the Federal government for European and development cooperation issues. She has been a member of the Social Democratic Party since 1984.

Mr Kevin Richardson

Local Growth Expert Adviser, Higher Education Funding Council for England (HEFCE). Kevin acts as the key adviser to HEFCE senior management on policy and strategy relating to local growth in general, and in particular on the new EU Structural & Investment Funds (ESIF). Kevin worked until recently for the central government Department of Business in London leading on the innovation work stream for the ESIF programme. He remains the national lead for Smart Specialisation in England. He is now supporting the work of the National Centre for Universities and Business to respond to an invitation from Government to establish a Smart Specialisation Advisory Hub. This new body will support businesses and public leaders across 39 Local Enterprise Partnership Areas to develop proposals to support innovation that are more evidence based, locally differentiated with clearer intervention logics.

Dr Isabel Rohner

was born in 1979 in St. Gallen, Switzerland. She studied German Studies, Romance Philology and Philosophy at the Universities of Zurich and Cologne and in addition Political Management in Berlin. Until 2008 she worked as an academic assistant at the Institute of Comparative Literature and Cultural Studies at the University of Giessen where she obtained her PhD. During the years 2008-2013 she was responsible for Political Communication and Strategy at the FernUniversität Hagen and had also several lecturships at the Universities of Giessen and Koblenz. Since 2013 she is adviser for Higher Education policy at the Confederation of German Employers' Associations. Besides her work at the national level, Isabel represents BusinessEurope in several European projects, such as the Bologna Follow-Up Group, the revision of the European Standards and Guidelines for Quality Assurance in the European Higher Education Area or the U-Multirank project.

Dr Irene Seling

was born 1966 in Delmenhorst, Germany. After completing a vocational training in gardening and landscaping, she graduated in 1993 in Forestry Science. In 1997 she received her Ph.D. in Forest Economics from the University of Freiburg. Between 1992 and 2007 Irene worked in several functions in universities in Germany and Brazil (Faculty Assistant, Visiting Professor, Deputy Director International Office). From 2007 on she was responsible for Higher Education policy at BDA Confederation of German Employers' Associations and in 2012 she became Deputy Director of the department Education and Vocational Training of BDA. Beside other memberships Irene is representing BUSINESS EUROPE in the Bologna Follow-Up Group and the German employers in the Bund/Länder Follow-Up Group for the Bologna process. She is member of the board of the BDA/BDI-STEM-initiative "MINT Zukunft schaffen" and in the Commission for Teaching and Learning of the German Rectors' Conference.

Professor Alfredo Soeiro

received a degree in Civil Engineering from the University of Porto and a PhD from the University of Florida. He is currently associate professor at the University of Porto where he was Pro-Rector for Continuing Education. He was founder of EUCEN (European University Continuing Education Network); RECLA (Network of Continuing Education in Latin American) and AUPEC (Association of the Portuguese Universities for Continuing Education). He is member of the editorial board of the European Journal of Engineering Education. He received the medal of the 800th Anniversary of U. Sorbonne, the International Hall of Fame of Adult and Continuing Education title, the EDEN Fellow award and the IACEE Fellow award (2014). He is member of the Steering Committee of EUCEN and of the EDEN NAP. He has coordinated six European projects and has been partner in about twenty other European funded projects.

Ms Anne Steydli

is in charge of the development of dual study programs at the University of Strasbourg. This department was created in September 2013. Her main goals are to support and help academics for the engineering and the organization of dual study programs and secondly to develop them through a wide range of communication actions. Anne Steydli is strongly involved in her various missions. She especially implements complete processes in order to help professors setting up dual study programs. In addition, she coaches them at every step of their project and also develops the network between schools and partners. Promoting those programs among companies, academic and employment and partner and students in order to spread this system is one of the most important parts of her goals. As an occupational psychologist, Anne Steydli began her career as a management consultant for small and medium sized companies. Afterwards, she supported employees in vocational retraining and unemployed people in their career transition. She was involved in human resources management and career development for a few years and currently focuses on promoting dual study programs which represent another opportunity for graduate to enter the labor market.

Dr Rolf Strittmatter

was born in Binzen, Germany, in 1970. He studied macroeconomics and graduated from the University of Freiburg. From 2001 to 2003, he worked as a project manager/consultant at BDC GmbH and managing director of "Friends of Massachusetts" in Basel, Switzerland. After receiving a doctorate in geography (Dr. rer. nat.), he became managing director of the Economic Development Agency Region Southwest and afterwards of a medium-sized medical technology company. In 2010, he qualified as professor/head of the degree programme business development at the Baden-Wuerttemberg Cooperative State University (DHBW) in Mannheim. Since 2011, Rolf has been managing director of ZAB ZukunftsAgentur Brandenburg GmbH, the Brandenburg Economic Development Board, and managing director of the Expo Center Airport Berlin Brandenburg GmbH.

Mr Mário Tarouca

at only 21 years old is a true passionate Junior Entrepreneur from Portugal. While in high school, at 17, he co-founded his own company, organising local events for more than 5.000 people. Two years later he co-founded an IT startup in the area of telecommunication, creating a simple way to share all your contacts through an ingenious mobile application. In 2012, however, he got to know the Junior Enterprise movement. He joined the network in the same year as a consultant, only to get elected in a couple of months later as the new President of his Junior Enterprise. He did not stop at the enterprise level, and being conscious about the problems that challenge the youth today he decided to make the next step and become the Director of Public Affairs for JADE - The European Confederation of Junior Enterprises, working from Brussels to ensure that the voice of the Junior Entrepreneurs is beating in the same rhythm as the heart of Europe. Mário is responsible for representing the movement in front of Global Organisations, such as WEF and OECD or, at European level, the European Commission.

Mr Christian Tauch

studied history, international relations and literature in Germany and the US and worked and did research in the UK and Italy. From 1995 to 2005 he was head of the international department of the German Rectors' Conference HRK in Bonn. Between 2001 and 2005 he co-authored several comparative studies related to the European Higher Education Reform (in particular the EUA "Trends reports"). From 2005 to 2010 he worked in the European Commission in Brussels, in the Higher Education Unit of the Directorate General for Education and Culture. Since then he has been back with the German Rectors' Conference where he is in charge of the education department, dealing inter alia with university-business relations.

Professor Micha Teuscher

holds a doctorate from the Faculty of Economics and Social Sciences, Hohenheim University (Germany) and has been President of the University of Applied Sciences Neubrandenburg since 2004 where he is also professor of business and management studies. Since 2010 he has been the spokesperson of the members' group of universities of applied sciences in the German Rectors' Conference (HRK) and vice-president of HRK. From 2010 – 2014 he chaired the Supervisory Board of the Stiftung für Hochschulzulassung and had been since 2010 a member of the Supervisory Board of the Stiftung zur Akkreditierung von Studiengängen in Deutschland (Foundation for the Accreditation of Study Programmes in Germany). He has also been a member of the governing board of the Akkreditierungs-, Zertifizierungs- und Qualitätssicherungs-Instituts e.V. (ACQUIN) in Germany.

Professor Christine Volkmann

studied Economics at Gießen University (Germany). After having worked as a PhD research associate with Deutsche Lufthansa AG, she held several leading positions at Deutsche Bank. In 1999, Christine was appointed Professor of Economics at the Westfälische Hochschule and managing director of the Institute for Entrepreneurship and Innovation. Since 2008, Christine holds the Chair of Entrepreneurship and Economic Development at the Schumpeter School of Business and Economics at Wuppertal University. She is director

of the Institute for Entrepreneurship and Innovations Research (IGIF). She was twice awarded the “UNESCO Chair of Entrepreneurship and Intercultural Management”, 2005 at Westfälische Hochschule and 2010 at the Wuppertal University. She is committed to related initiatives such as the interdisciplinary Jackstädt Research Center for Entrepreneurship and Innovation; a regular visiting professorship at the University of Economics and Business Administration (ASE) in Bucharest, Romania; the EFER (European Foundation for Entrepreneurship Research); the technical advisory group of the World Economic Forum for Education and Entrepreneurship among others.

Professor Johanna Wanka

has been Federal Minister of Education and Research and a member of the Government of Federal Chancellor Angela Merkel since February 2013. Previously, she was Minister of Science, Research and Culture of the state of Brandenburg for nine years from 2000 to 2009 and then Minister with the same portfolio in Lower Saxony from 2010 to 2013. Johanna Wanka worked in research and higher education for many years. After she had been appointed Professor for Engineering Mathematics at Merseburg University of Applied Sciences in 1993, she was elected Rector in 1994, an office she held until 2000. Johanna Wanka had begun her professional career as an academic associate at the Technical University of Merseburg in 1974 after studying mathematics at the University of Leipzig from 1970 to 1974. She has been politically active for many years. She was a founder member of New Forum in Merseburg in September 1989, and served as a member of Merseburg district assembly from 1990 to 1994. She joined the Christian Democratic Union of Germany (CDU) in March 2001, and was elected to the parliament of the state of Brandenburg in 2004.

Mr Jan-Martin Wiarda

is head of the “Communication and Media” department at the Helmholtz Association’s Berlin office. Previously, Wiarda was deputy head of the “Chancen” department at DIE ZEIT newspaper. Parallel to studying politics, economics and sociology at the University of Munich, he completed a vocational training course at the Deutsche Journalistenschule. In 2003, he completed his study course with a master’s degree at the University of North Carolina at Chapel Hill, USA. For many years now, Wiarda has been writing for various daily newspapers, including the Süddeutsche Zeitung, Tagesspiegel and Financial Times Deutschland. In 2004, he became an editor-reporter at DIE ZEIT newspaper. For his journalistic work, Wiarda has received, amongst other recognition, the KAUSA-Medienpreis. Moreover, he regularly works as a presenter for panel discussions and congresses.

Professor Uwe Wilkesmann

is since 2006 Full Professor (Chair) of Organizational Studies and Management of Continuing Education at the TU Dortmund University. Additionally, he is Director of the Center for Higher Education, TU Dortmund University. Since 2008 he is also Adjunct Professor at The Hong Kong Polytechnic University, Knowledge Management and Innovation Research Centre. Before he was appointed in Dortmund he was Professor at the University of Munich and the University of Hamburg. He received his Ph.D. (1993) and his Habilitation (German Professor Qualification; 1998) from the Ruhr-University in Bochum, Faculty of Social Sciences. As a Visiting Professor he stayed in Hong Kong and at the University of Connecticut. His research interest includes Research in Higher Education, Organization Studies, and Management of Continuing Education. Uwe Wilkesmann was principal investigator of several research projects founded among others by the DFG and BMBF.

Professor Birgitta Wolff

completed an apprenticeship in banking before studying economics and philosophy at Witten/Herdecke University. She completed her Ph.D. and Habilitation in business economics at Ludwig-Maximilians-University Munich. During her studies, she spent several years abroad. She held a J. F. Kennedy-Fellowship at Harvard University in 1995/96 and a visiting professorship at Georgetown University in 1999/2000. In 2000, declining several others, she accepted an offer from Magdeburg University and started the Chair in International Management, assuming the responsibility for the faculty’s international programs. In 2002, she spent a sabbatical at Stanford University. Shorter visiting professorships took her to several eastern European countries, Russia, China, Cuba, and Brazil. Her research

interests include topics in international human resource management as well as incentive design and entrepreneurship. Since 2002, she also served as a Vice Dean and Dean of her faculty. In 2010, she was appointed Minister of Education in the State Government of Saxony-Anhalt, Germany. From 2011 to 2013 she served as the Minister of Science and Economy in the same State, then returned to her University-Chair. On July 15th, 2014, she was elected President of Goethe-University Frankfurt starting January 1st, 2015.

Dr Peter A. Zervakis

is the Coordinator of the new Project nexus II – Forming Transitions, Promoting Student Success since July 2014. From 2010-2014 he was Head of Project nexus: Concepts and Good Practice in Higher Education at the German Rector's Conference (HRK). Prior to this, from 2006 onwards, he headed the Bologna projects of the HRK supporting German universities in implementing Bachelor and Master study programmes. From 2004 – 2006 he was Head of research projects on Greater Europe at the Bertelsmann Foundation and from 1999 – 2004, he was a Research Fellow at the Centre for European Integration Studies at the University of Bonn. Dr Zervakis received his PhD in History from University of Hamburg where he also completed his post-doctorate on Greece and Cyprus.

Dr Stefan Zotti

holds a doctoral degree in Catholic Theology from the University of Vienna and a master degree in European Studies from the Danube University Krems. He started his professional career as assistant to an Austrian Member of the European Parliament. 2007 he became political adviser to the Minister for Science and Research on national and European research and innovation policy and acting Head of cabinet in 2009. In 2010 Dr Zotti joined the cabinet of Mr Johannes Hahn, European Commissioner for Regional Policy. One of the main tasks he dealt with was establishing stronger ties between regional development and national or regional research and innovation strategies the context of the European Cohesion policy's reform. Since January 2014 he acts as Deputy Director General of the Austrian Agency for International Cooperation in Education and Research (OeAD GmbH). For several years he works as part-time lecturer at Austrian universities and is author of books and articles on questions of Applied Ethics as well as on European politics.

